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PARTISAN AND GUERILLA WARFARE.

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Major-General J. B. STERLING in the Chair.

ABOUT five or six years ago it would have seemed almost a waste of time to assemble an audience to listen to any discussion about guerilla warfare: it would have appeared merely an academic and historical discussion not worth the serious attention of business men, and, above all, not worthy the attention of men who were about to risk their lives in the very serious business of war. But a change has come o'er the spirit of our dream in this respect; and certainly no British officer—and very few of his friends—and no British journalist, has the slightest intention of ignoring either guerillas or guerilla warfare, or the effect produced by guerillas, or the methods of guerillas, for some time to come. It appeared to me very strange, before the late war in South Africa, that the operations of guerillas were not part of the curriculum and education of the military folk of England: because, from the very nature of the case, British officers are more frequently engaged, and have been more frequently engaged, in what might be called guerilla wars—small wars, savage wars, irregular wars—than any other officers. Indeed, I pointed out, a year before the war, the value of this branch of study; and yet in January, 1900, there was not one work on the subject in any London shop. For that matter, British officers and soldiers have been more frequently engaged in this kind of warfare than the officers of any other State in Europe. Before coming down here this afternoon I just opened casually a well-known book of reference, Hadyn's "Dictionary of Dates," and therein I found that the British Army was engaged, even in the reign of our late Gracious Majesty Queen Victoria, in no less than 82 distinct campaigns.¹ Now, of these a very considerable portion come under the heading of small wars—guerilla wars, wars the leaders of which only had command of

¹ See Appendix XI.

a few thousand men at a time ; wars in which artillery did not play a leading part ; and, indeed, guerilla in the fullest sense of that word—guerilla warfare in the bush and desert and guerilla warfare in mountainous districts.

So little was the value of guerilla warfare, or the danger of guerilla warfare, apprehended that our statesmen appeared to know little or nothing about it. Whether they have taken the pains of knowing much about any kind of warfare is another matter, which we will not discuss in this assembly : but certainly they had not the slightest notion of the meaning of a disorganised resistance of a very severe and very dangerous kind, after organised resistance had come to an end. In point of fact, some of our statesmen were amazed that any nation should be so foolish and absurd as to continue a warfare after the regular armies of the country were defeated, or after the capital of the country was taken. Some statesmen said so, in the midst of great applause, before our civic elders ; they said the history of Europe proved they were justified in expecting that if the capital of a country was taken the resistance of the country was practically overcome.

But nothing is less true, from a historical point of view. Directly all the armies in the field—which are the real objective of an invasion—are utterly annihilated, the warfare has come to an end—in Europe and elsewhere. But, you say, what about France in 1814, 1815, and 1871 ? Well, Paris did not surrender until the resistance of the country was practically overcome—when a guerilla or irregular warfare would have been ridiculous. In the year 1871 Paris surrendered, after a long siege of four months of starvation ; but during the course of the siege guerilla warfare prevailed day and night—as I will soon show you from the records of officers on both sides. So that even in the case of France, after the capital of the country was isolated by investment, was put *hors de combat*, and was closed up till exhausted by starvation—after the capital of the country was thus closed up, a very severe and a very destructive warfare began and was continued by irregulars, or hastily organised persons, from the 19th September till the 28th January.

But take Spain. Surely any British statesman who says there will not be a regular warfare after the capital is taken must have no knowledge of our own operations in Spain in the eighteenth and in the nineteenth centuries. The great centre of the country, Madrid, was occupied by the French in 1808. Then the French were driven out ; but they occupied Madrid again in 1809. They were driven out again in 1812, and re-occupied it at the end of 1812 ; and warfare went on just the same as if Madrid had not been occupied at all—one continuous series of small operations by the Minas, the Empecinada, the Medico, and others.

You may be surprised to hear that in these wars women at times played a very prominent part. For example, the Maid of Saragossa carried on the operations celebrated by Lord Byron, who, in the last year of his own life, was a guerilla in the cause of Greek independence. The most notorious of all these lady guerillas served in America, in the wars of her colonies against Spain. There was a general named Eliza Lynch—for whose generalship I have great sympathy. There was a Colonel Emma Gill, and there were any number of ladies constantly engaged in operations—which I have not time to describe—which you will see set forth in the history of Buenos Ayres. In Spain itself there

was such a venomous opposition to the invasion of Napoleon, even after the capital was seized, that the women took up the war and carried it on. I do not approve of ladies carrying on the trade of war; it is an unfortunate thing that ladies should do—it gives to war an unnatural ferocity—though the ladies from the part of the United Kingdom from which I come are capable of carrying on a most severe struggle against the other sex. I have seen them attack armed *gendarmes* with their stockings loaded with stones.

Dropping Spain for a moment, let us go to Austria. Vienna was taken by Napoleon in 1805; it was taken again in 1809; but a very fierce guerilla warfare then commenced. You may remember how Hofer and the Tyrolese proceeded with guerilla warfare after Vienna was occupied in 1809. Berlin was occupied by Napoleon in 1806; but Schill began a guerilla warfare, irregular bands pervaded all North Germany, the *Tugendbund* was started, and Black Brunswickers took vows of "Death or glory"—all continued their operations till the time of the turning of the tide came in 1813.

Take Russia, where a regular system of *partida* warfare prevailed—the great text-book of which is written by a Russian, one of the organisers of that system, General Davidof, himself a partisan or a regular leader of irregulars. Moscow was occupied by the French in 1812, and forthwith the Cossacks proceeded with their operations, and never stopped till their partisan leaders, Chernicheff, Seslavin, Platoff, and others followed Napoleon to the very gates of Paris in 1814.

I think I have said enough to show that our country was practically interested in guerilla warfare by itself and its allies in the past—was interested in guerilla warfare before the last war; took part, either as allies of guerillas, or as putting down guerillas, in many military operations, ought to have known something about them, ought to have plenty of text-books in circulation about them—and yet there were not any in 1899.¹

The result was not satisfactory, and cost us £100,000,000 of money and 10,000 lives. It is good to be prepared for anything that may occur, either financial disaster or physical disaster or national disaster; and a State that will go to South Africa or to the north of India, and imagine that it is going to win a war by one simple piece of strategy and Pall Mall organisation (good or bad) without preliminary preparation, organisation, education, or training, and crush its enemy by mere manifestoes, is a silly State. That State deserves to be taught—as we have been taught—wisdom, after a considerable amount of irregular warfare. For any statesman to get up and say that there is something dishonourable, unusual, or disgraceful in prolonging a campaign after the capital of the country is taken, shows he thought the art of war a pleasant after-dinner entertainment, like rhetoric or "bridge," instead of a serious matter, in which men's lives and the life of the nation are risked.

What, can one say, is the difference between partisan warfare and guerilla warfare? The difference between partisan and guerilla warfare is easier to describe than to define. A partisan—a *partida*, the leader of a *parti*—is a person in charge of a limited number of troops, whose operations are ancillary to the main operations, and

¹ Callwell's "Small Wars," in its present form, is excellent, and should be read by all officers.

yet who does not occupy the position of a detaining force. I could describe it better with the aid of a blackboard. Supposing we wanted the main bodies to crush opposition in the direction of the clock, it would be highly desirable for two other smaller bodies, with cavalry and some guns, to line themselves on either flank, and to keep constantly watching all forces threatening our line of advance—to be the wings of the main body, aiding, but not interfering with, and certainly not thwarting, the main operations, but keeping their eye on, and being, as it were, ancillary to, subsidiary to, incidental to, but not contradictory to, the main operations. The originators of the *partida* warfare in modern Europe were men like the heroes of the Thirty Years' War, the Duke of Baden, John of Brandenburg, Prince Christian, and Count Mansfield, Francini, the Trencks in the time of Frederick the Great, and men of the Russian race (who carried out to a splendid issue guerilla warfare, fighting all the way from Moscow to Paris, in 1812-14), and were entrusted with great responsibility. They were always operating on the flank of the Grand Armies; they were capable of scouting and living at a great distance from the main body; and I could, if I had time, describe to you how they even ventured so far as to take cities, like Soissons. They made many a raid, just as in the American Civil War partisans made raids. Who does not know of J. E. B. Stuart, Forest, Morgan, Mosby, Stoneman—names known to Europeans as well as of trans-Atlantic fame? They all were as much under the regular Government of the country as General Lee or General Jackson were, or, on the other side, as General Grant, General Sherman, or General Sheridan. They wanted to worry the enemy in his lines of communication; they wanted to destroy the stores of the enemy. Their object was not the capital of the enemy—they could not pretend to take that. Their object was not any great operation to crush the forces of the enemy in the field. Their object was to assist the general operations by worrying the enemy, distressing the enemy, perplexing the enemy, ruining the lines of communication of the enemy, and taking the supplies of the enemy.

That was the object of the celebrated system of raids in the American Civil War. General J. E. B. Stuart, with about 1,700 cavalry, and, say, 2 or 3 or 4 guns (obtained from Jackson or from Lee), would suddenly turn up right in the rear of McClellan or of Pope or Burnside, cut the lines of communication, destroy the railways, take stores, and come back again, with little loss. These things were done all through 1862, but especially in 1863. Stuart made a celebrated raid into Pennsylvania in 1863, making the rich proprietors of Pennsylvania "squeak" (to use his own expressive language). The object of the detached force might be to ruin a valley. For example, take General Sheridan's operations in the Shenandoah Valley, where he cut off all possible communication between the valley and the main theatre of operations, and rendered it quite impossible that a district of 50 miles by 150 miles could be used again, at any rate for months. I have here General Grant's orders to General Sheridan, commanding at Winchester, in which he says:—"If you can possibly spare a division of cavalry, send them through Loudoun County to destroy and carry off the crops, animals, negroes, and all men under 50 years of age capable of bearing arms." Why? "In this way you will get rid of many of Mosby's men." Who is Mosby? An operator on the other side, of a similar character, constantly raiding and attacking lines of communication. For the benefit of the ladies present, I may tell

them that a line of communication is a road or railroad or canal or other means of connecting the front of an army to its base of supplies, by means of which line of communication, road or railroad, the people fighting in the front live. They get stores from the base along the line of communication; they get recruits, and send back wounded, and so forth. Therefore, any effective interruption of the lines of communication may mean the death of the army; and for the purpose of effective interruption of these lines partisan corps, guerilla corps—small, almost insignificant bodies of men, under able and desperate leaders—are admirable, especially if they know the country. But Dornberg and Chernicheff raided countries hundreds of miles from their homes, as did Mongul and Tartar partisans.

Continuing the orders of General Grant. He says: "All male citizens under 50 can fitly be held as prisoners of war, not citizen prisoners. If not already soldiers, they will be made so the moment the rebel army gets hold of them." General Sheridan, I need scarcely say, carried out his orders with efficiency and dispatch. "Give the enemy no rest. Do all the damage to railroads and crops you can. Carry off stock of all descriptions, and negroes, so as to prevent further planting. If the war is to last another year, we want the Shenandoah Valley to remain a barren waste." That was the idea—an excellent idea—but an extremely uncomfortable idea for the persons on whom it was practised. However, it tended to end the war; and, as General Sherman said, the sooner a country escapes from hell the better—"and war is hell."

I have been dealing with the campaign of 1861 to 1865. To turn from America to France, let us come down to the campaign of 1871. At the beginning of the year 1871 the Germans had in France 450,000 infantry, 50,000 cavalry, and 1,600 guns. You would have imagined that these were nearly enough to hold the French down, especially as their Regular Army was utterly ruined. They were not enough; not nearly enough. Why? Because there were Francs-tireurs and other guerillas always hovering about the lines of communication. What lines of communication? The principal line of communication was 250 miles of road and railroad, carrying in each day 16 trains of supplies to the army about Paris; and other minor railroads through the country, by which the detachments north of Paris to Amiens, or south to Orleans, lived. Manifestly, if by any chance the guerillas or Francs-tireurs, as they were called, could only blow up a few tunnels and destroy the railway by which these 230,000 men round Paris and 200,000 elsewhere lived, the Germans would perish in France—"France would be the grave of Germany." No one can go more than a certain limit of time without food. I have gone for four days once, and again for three, when I was young and strong, but I was very tired of it; I do not want to go two days again. You may take it that the soldier wants on an average, as Napier said, a couple of pounds weight of food a day, and a certain amount of drink. The German soldier wanted a large amount of drink, and 12 cigars a day, in addition to his regular food, and he got it—by sternly repressing the population. How did he repress them? By certain orders, which have been published, which I have here, making it death to be an irregular—that is, a kind of bandit, not a partisan, fighting one day in plain clothes as a peasant, and the next day in uniform as a soldier; to shoot the invader one hour, and to turn your weapon into a furrow and resume operations of peace and agriculture and sing hymns the next

day. That was a kaleidoscopic existence, which the Germans promptly ended. But with uniformed men it was quite another matter altogether; they could not punish these men. Gambetta represented the State; he had political and military assistants under him, organising the Army; and so long as the partisan corps, or the irregular detachment, took part and fought in the uniform of the Regular Army of the country no one found fault with it; it was an honourable thing to do. They did it so efficiently that, in addition to the enormous bulk of troops to whom I have referred, the Germans absolutely had to employ to protect the railway no less than 150,000 infantry, 6,000 cavalry, and 80 guns. You see, therefore, what a tremendous value uniformed volunteers, knowing the country, and led by able officers, would be in the unlikely but possible event of the invasion of England. You see how very valuable it is to study locality, to make the people well aware of what the vital spots on the enemy's lines of communication or roads in the country are, and to have military police of the neighbourhood trained in advance, instead of improvising knowledge, with disastrous results, in the event of war.

I have here Major-General Maurice's book on the Franco-German War, published by Messrs. Sonnenschein. It is written by German officers of high position, and, therefore, not prejudiced. It shows what a display of force, especially infantry, was required to cover the rear of the army to secure its communications with home, to garrison the French fortresses that had been reduced, and to keep in check the population of the provinces. That was exactly the task imposed on the troops of occupation. We will see from another book in a few minutes that this was precisely the task imposed on the 400,000 British soldiers, extending over a far larger extent of territory, lately employed in South Africa. The expanse of territory can be seen on the map of the world. Just look at the theatre of operations. Compare one-third of France with the district from Durban to Mafeking and from Cape Colony to Rhodesia. The Germans required that monstrous force in 1870-71; we required a very large force also in 1899-1902; and the Boers were at least as skilful in the art of guerilla warfare, in the art of cavalry raids, in the art of blowing up bridges, as the comparatively innocent peasants of Alsace-Lorraine and Champagne. How did the Germans manage to secure their line? I quote from p. 542 of the book I have mentioned:—"The discharge of this task required certain organisations of commands and of administrations. A general of communications command was instituted for each of the separate armies, and a quatum of battalions of Landwehr and of squadrons of the Reserve allotted to it. A general was appointed to each such command, with a staff of officers and officials; and their duty was to follow their army in its advance, and to secure the roads by which reinforcements, remounts and supplies of ammunition and provisions had to be brought up, and the prisoners and the sick and wounded to be conveyed to Germany." There is the value of the lines of communication. If you can only invent weapons that will go off of their own accord, so that you will not have ammunition to supply; and a kind of food—which, I believe, people are trying to invent—in globules, each of which can keep a man alive for a week or so, then the value of the lines of communication would diminish; but these military novelties are not yet in general use. "For this purpose, at distances of 14 or 15 miles along these roads of communication"—not unlike the block-house system—

"station commands were established at suitable places, and to each a small detachment of troops was allotted as garrison for the station." It seems so like the South African system! Verily, there is nothing new under the sun. "The officers in command were mostly ex-staff officers, reappointed for the period of the war, with an adjutant to each, and, where required, some civilian officials, charged with the management of the supplies, etc." That was in the bigger centres, of course. "The strength of the garrisons varied according to the size and importance of the station—from one-half to 5 companies. Often, also, cavalry was attached—from 4 to 6 men up to a whole squadron. These garrisons were responsible for the safety of any supply magazines and hospitals established at their station, and they had to protect the transport of supplies, prisoners, and sick and wounded, and of the mails of the field post office." If Germany went to war now, the troops it would put in the field, with supply columns, ammunition columns, and so forth, would stretch the whole way from the Rhine to the Russian frontier on one road: so that you can see the formidable character of the art of war as practised in modern times, and the vital necessity of preserving the lines of communication.

To resume. On p. 545 General F. Maurice's authority says: "The work of the troops on the lines of communication was often exceedingly toilsome, and fraught with danger. It was rendered somewhat easier through the fact that, from want of cavalry, the French were unable to make cavalry raids; but, on the other hand, the difficulty was enhanced by the bodies of *Franc-tireurs*." The task would have been very much more severe but for the fact that all the French cavalry had been taken prisoners in August, 1870, and that they did not often try to improvise cavalry. The French race was not a riding or an equestrian race; it was not like the Confederates of America; it was not like the Boers or Mongolians or the Russian Cossacks and some few others. These could improvise easily myriads of mounted troops, excellent raiders; whereas the French, whether they could or could not, did not try to improvise cavalry. And consequently, as this German officer says, the French were unable to make cavalry raids. Our friends in America—Morgan, or Grierson, or Forrest, or J. E. B. Stuart—would have made most effective cavalry raids under similar conditions. But, nevertheless, immediately after the Republic had been proclaimed in France—mark you, immediately after the regular Government of France had been destroyed, and immediately after the Emperor of the French had been taken prisoner at Sedan—the French began guerilla warfare. They began to improvise infantry; they declared war *à outrance*. "The Boers should have stopped with the occupation of Bloemfontein and the occupation of Pretoria"! All history is against this Cabinet-Minister kind of nonsense—and few men have £20,000 a year or can afford to be triflers—and warnings against its practicability were printed and circulated in England in March, 1900. "Immediately after the Republic had been proclaimed in France (4th September, 1870), and Gambetta placed at the head of the 'Government of National Defence,' with dictatorial power, the endeavour was made to inflame the French people to war to the knife by public proclamation. Everywhere men, not belonging to the Army, formed themselves into Companies of *Francs-tireurs*, to take part in the struggle against the Germans. They assumed uniforms more or less fanciful, and were, for the most part, very well armed." They got 600,000 stands of arms from England alone in one month, and

they got plenty of other arms from America. "It was their task to wage a guerilla warfare partly before the front and at the flanks of the different armies, and partly at the communications in rear of the Germans"—precisely like the Boers. "Their attacks were made by surprise or from hiding-places and from ambushes." There may have been 40,000 of these men, all told; but they were quite sufficient to employ this very large body of German troops.

There had been guerilla warfare in France before. The Catholic and loyalist people of La Vendée had undertaken an enterprise in 1793, in coping with the Republic; and their methods of operation, and how they were defeated, resemble very closely the Boer methods of operation, and how they were defeated. The Republican armies were well beaten at first. The most horrible outrages on the part of some of the Republican chiefs had not the slightest effect at pacification. Republican marriages, *noyades*, fusillades of priests, and indescribable brutalities, had not the least effect; no terror could put an end to this guerilla warfare. Military methods alone succeeded, just as in Spain Napoleon's generals, like Foy and Suchet, would have crushed the guerillas, only that the British planted a Regular Army in that country. It was the British who won Spanish independence, not the guerillas. When a regular guerilla warfare is adopted, as against irregular guerilla warfare, and when you have plenty of lines of communication and plenty of men, the poor guerilla invariably goes down.

Liberty was never won in any country whatever by a disorganised, improvised, irregular system as against a strong regular system. I am not now speaking of over-drilled regular Armies. Consequently those who say that a regular system of warfare has been proved to be wrong because, at a certain period of time, the Boers held out against the British, know as equally little as others who say there is no guerilla warfare, because in all time and in every war for a period after the capital has been taken there has been an irregular warfare conducted by irregular bands.

I should like any gentleman to give me one example of any country where irregular operations secured liberty as against organised force employed in a wise system. I challenge discussion on this point.

For 40 years there was constant resistance against the Russians in the mountain fastnesses of the Caucasus. Warfare was going on from 1824 to 1859, and the warfare brought out a magnificent man, of weird influence and fanatical enthusiasm, as well as marked ability—Schamyl. But the Russians succeeded. Take Algeria; Abd-el-Kader fought heroic campaigns, even against Marshal Bugeaud himself, but, though he worried and defeated previous leaders of the invasion, he collapsed at last. When a man like Bugeaud comes to the front, or a man like Hoche, and when he is able to utilise properly the resources of the great State in a regular, methodical manner, he need not be afraid of the efforts of the ablest guerillas. How, then, did Hoche cope with the heroic people of La Vendée? This young general—a skilful politician and soldier, who taught himself the art of war when he was a sergeant, from borrowed books, by candle-light—clearly perceived that he should no longer endeavour to conquer an enemy with whom it was impossible to grapple, and who was not to be reached by mere force of arms. He then adopted a system of movable columns against his able opponent, Charette; but heavily armed soldiers, obliged to carry everything about

them, and who did not know the country, could not equal the speed of peasants carrying nothing but their muskets, who were always certain of finding provisions wherever they went, and knew well the smallest ravines and the dreariest moors. Consequently he immediately ordered all pursuit to cease, and digested a scheme which, being followed by firmness and perseverance, could hardly fail in restoring peace to those desolated countries.

Now, what was the scheme? Hoche conceived an ingenious mode of reducing the country without laying it waste, by depriving it of its arms, and taking part of its produce for the supply of the Republican army. In the first place he was determined to fix some entrenched camps—I will not bother you with the particular places in which they were situated. He then formed a circular line supported by the Sèvre and the Loire, so as to progressively coop in the whole country. This line was composed of very strong posts, communicating with each other by patrols, in such a manner as to leave no free space by which an enemy, if at all numerous, could pass." I might be reading the descriptive letters of some journalist a couple of years ago in South Africa. "These posts were directed to occupy every township and village, and to disarm the inhabitants. To accomplish this, they were to seize the cattle, which usually grazed in common, and the corn preserved in the barns; they were also to arrest the principal inhabitants, and by no means to restore the cattle and the corn, or release the persons taken as hostages, till the peasants should voluntarily surrender their arms. Now, as the Vendéans were more attached to their cattle and their corn than to the Bourbons and Charette, in due time the peasants surrendered their arms." So much for the system adopted by Hoche in France, in 1794. You see the Germans could not possibly get so far away from their lines of communication as to do anything of the kind; they had to be content to live by the railway, to throw out detachments, and to make a system of posts, more or less elaborate, so that they might keep connection with their own country till they had crushed Paris.

Of course, the phrase "connection with their own country" scarcely applies with regard to Africa, because the connection with England was "the inviolate sea," and as long as Britons keep command of the sea, the Army will have a base somewhere; but if its command be lost, the Army might just as well be kept at home; no amount of strategy is any good then.

Now, take the system adopted by General Bugeaud against that admirable man, Abd-el-Kader. It is well to preserve the fame of all great men, whether Mohammedan or Christian. Abd-el-Kader was a man of splendid personality. All the excellencies of his body are set forth by a Frenchman in terms of great admiration. When he preached the "holy war" against the French, he was a celebrated marabout, fanatical, intelligent, clever, energetic, handsome, powerful. His eyes were of a seductive kind when not glowing with martial ardour. He was admired for his knowledge, feared for his bravery, revered for his piety. From a simple Mascara chieftain he became leader of all the Arabs of Africa, having united them in a coalition against the French. The treaty of Tapua gave him breathing time to re-establish his influence. Having displayed European capacity in preparing his resources and his army, he threw off the mask and commenced the war again with all the impetuosity of an Arab and the fanaticism of a

Moslem. He combined in his own person every talent; he was administrator and devotee, preacher and combatant, soldier and general, and, indeed, a prophet; and for years he embarrassed the French till Marshal Bugeaud adopted a system very similar to that I have described of Hoche's, with the result that the resistance was in due time crushed.

I will now take up another point, describing the system of operations at last adopted by the British in South Africa, when they came to the conclusion that guerilla operations, or irregular operations, were part of the art of war. I will not quote two books, which are admirable in their own way, *i.e.*, De Wet's own book, and the other "On the heels of De Wet." Both of them are very well worth reading, but I prefer to quote an ordinary outside observer on these matters as far as I can. Botha, De Wet, and other Boer leaders have described how they were gradually hemmed in.

Sir Arthur Conan Doyle has a good passage which serves my purpose, on page 609 of his book. He says, "Beyond a series of skirmishes and rear-guard actions towards the end of the war, from January to April, 1901, Botha's was the only attack which could even pretend to stop the columns of General French. It did not succeed, however, in arresting them for an hour. From that day began the series of captures of men, herds, guns, and wagons as the fugitives were rounded up from the north, the west, and the south. The operation was a very thorough one, for the towns and districts occupied were denuded of their inhabitants, who were sent into the refugee camps, while the country was laid waste to prevent its furnishing the commandoes with supplies in the future." Hoche did not have this kind of refugee camp nor a concentration camp either. Nor had the Germans nor the Americans. I will not say a word against concentration camps of this character, but all I can say is that if it once gets out to the world at large that guerillas or irregulars will be treated like the guerillas and irregulars in South Africa were treated, there will be plenty of guerillas and irregulars in every future war. It will be the most prosperous career possible! I would turn guerilla myself tomorrow if I had a chance to go and be treated as they were treated. You fight and enjoy yourself as long as you can, and in the meantime what is your wife doing? Crying? Turned out into the forest like the French women were turned out, or denuded of her property like the Vendéan women, and the children in a most pitiable condition? Is that the way the Boer women were treated? Not at all. Most of our wives would have been far better off in Africa than they ever were before. They would have had the best to eat and to drink; they would have had fun galore; they would have had the soldiers playing martial music to them as if they were dining with the Russian Imperial Guards, and they would have had a magnificent time all round. And, in addition, the children were better educated than they were before. Suppose that at last the man was taken prisoner; what was done to him? Was he sent to gaol? Was he put on the Black List? Not at all! He was sent to one of the most charming localities off the coast of America; he is treated as well as his wife is treated in Africa; or he is sent to the Bermudas, to study Marvell's poem, "Where the remote Bermudas ride." If that does not do, he is sent to Ceylon, with its spicy breezes, or he is sent to some splendid Indian sanatorium. I say, if it only comes to be generally known that the guerillas will be treated as we treated the guerillas in South Africa,

soldiers will begin with guerilla warfare in the future, instead of ending with it.

What was the result of the last combinations? "Still moving south-east, General French's columns made their way to Piet Retief, upon the Swazi frontier, pushing a disorganised array, which he computed at 5,000, in front of them. A party of the enemy, including the Carolina commando, had broken back in the middle of February, and Louis Botha had got away at the same time; but so successful were his main operations that French was able to report his total results at the end of the month as being 292 Boers killed or wounded, 500 surrendered, 3 guns and 1 Maxim taken, with 600 rifles, 4,000 horses, 4,500 trek oxen, 1,300 wagons and carts, 24,000 cattle, and 165,000 sheep. The whole vast expanse of the eastern veldt was dotted with the broken and charred wagons of the enemy." That is the result of the system of crushing out irregular operations.

Sherman acted far more severely in 1864. I am always amused at foreigners when they come and criticise British officers and British men. I am not calling the United States people exactly foreigners, but they are not exactly British yet. Really, you would think, to read the criticisms by Germans and by Frenchmen and by United States people, that the British officers and men were first a lot of fools at the beginning of the war, and then a lot of blackguards at the end of the war—the greatest fools at first, and the greatest blackguards at last, that any country ever produced. Now, if the British officers and men were such fools—if they were such absolute fools because a few of them happened to get shut up in Ladysmith and Kimberley, and Mafeking—what do you say about the Prussians, whose whole country was overrun in one month by Napoleon in 1806? What do you say about the Austrians, who were beaten out of all time in 1866? And if 10,000 of our soldiers were fools to get shut up in Ladysmith, what kind of fools were Bazaine and his staff and 173,000 men to go into Metz? Ask any of the French critics of the art of war that question, and they will not like it. And what kind of a fool was Marshal MacMahon—I would not call him a fool, because I have the highest possible admiration for him, but somehow he got shut up in Sedan with 83,000 men. History will say he was only a fool because he hearkened to political schemers, and I am not quite clear that history did not repeat itself thirty years later. But the difference is that whereas our troops were shut up, they got out and came home to England, whereas the French troops went to Germany under custody; quite a different arrangement. I do not accuse Sherman of cruelty in crushing out rebellion in Georgia. He had his orders (which I have here). Mark you, he would not do a cruel thing to any regular guerilla. You must distinguish between the two. When a man without uniform, without orders, without any connection with a regular Government, and when the regular Government was, properly speaking, abolished—when a man of that kind continues a war beyond reason, he then becomes to some extent an enemy of the human race at large. That is not my doctrine, I don't start the theory; it is the doctrine of Napoleon, it is the doctrine of that most excellent and cautious general, Wellington. He told the people on the French frontier, in 1813, "You can fight, of course, and you ought to fight against our invasion of France, but you can only fight as soldiers."

I am now coming to the third class of guerilla—the guerilla whom it is hard to distinguish from a treacherous bandit, of whom there have

been many. I say that the *partida* or the partisan, like all these Russians, and Austrians, and Prussians, and Frenchmen to whom I have referred, are admirable patriots, doing most efficient service for their country, like the Commander-in-Chief or anybody else. I say again that when a nation is more or less broken by invasion, like Spain in 1808, or is in a disastrous condition like the Tyrol, or the Caucasus, or Algeria, that an irregular organisation of the State, led by a person of repute and authority, is one of the highest possible ways in which a poor man can be a patriot; but if that poor man goes on—I do not say the Boers did; I am not passing judgment on them—but if anyone goes on beyond all bounds or reason, the Commander-in-Chief of the opposite party is justified in saying: "Now, this must cease." I say that our commanders and our leaders were more cautious in laying down that doctrine than any invading officers, or any repressive or punitive officers in any other war at any period of history—certainly more so than the Germans. Get the Crown Prince of Prussia's orders in August, 1870—when there was very little guerilla warfare—warning the people, and compare them with the harshest orders of our officers in Africa. Let us be honourable men in dealing with our own people, as we ought to be honourable men in dealing with other people. What did Sherman say? Mind you, Sherman was no irregular. Sherman was a highly-trained, methodical officer; he was a perfect master of his business in theory before the war began. He had been educated at West Point, one of the best military colleges in the world, and he understood clearly the effects of his orders. "You may order all your post and district commanders that guerillas are not soldiers, but wild beasts, unknown to the usage of war. To be recognised as soldiers they must be enlisted, enrolled, officered, uniformed, armed, and equipped by some recognised belligerent Power"—that is not a very severe definition—"and must, if detached from a main army"—there we have our *partida*, or small band—"be under the same organisation and government as the regular army." Therefore, I say, in regard to what has been alleged about the harsh doings of the British in South Africa, I could parallel them with multitudes of examples, of far more serious incidence, among the best military races in Europe; and with regard to our dealing with the guerillas, or *partidas*, or whatever you wish to call them, when the war had been protracted beyond all reasonable hope of success, the treatment of the guerillas in South Africa by our Government and our soldiers compares extremely favourably with the documentary evidence that I have as to the treatment of similar foe by any other nation at any period of history.

There is another class of people who are by nature hard to conquer—the mountaineers. You will be interested in Macedonia and Albania just now. Macedonia is coming to the front again. I will not deal with religious guerillas like the Waldenses, or the Huguenots; it would take too much time; besides, as far as possible it is desirable to avoid introducing into the discussion either the *odium theologicum* or any odium at all outside the bounds of fair military discussion. But there was a constant warfare, without any break whatever, in Montenegro against the Turks; it had never stopped for 400 years. It began at the battle of Kossova, where the Turks defeated the Servians in the middle of the fourteenth century, and continued perpetually till 1878. If you get any leading descriptive books, Reclus' *Universal Geography*, or any history of the Balkan Peninsula, and see the character of the country, you will understand the protraction of opera-

tions. It is a very singular thing indeed that these poor mountaineers were able to resist the best military Power—for, mark you, not only are the Turkish private soldiers admirable now, but in the time of Queen Elizabeth the Turkish Army was almost a perfect army in every respect; and yet the Montenegrins resisted them for 400 years. The Albanians, who afterwards became some of the best soldiers in the Turkish Army, were led by a celebrated chief, by the name of Iskander, or Scanderbeg, a namesake and fellow-countryman of Alexander the Great; and in the fifteenth century his skill was the admiration of mankind. Even when the Bosnians and Herzegovinians were united to Austria, after the war of 1878, between Turkey and Russia, they gave the Austrians enough to do.

The Albanians also for centuries continued their strife. The only difference between them and others was that they were equally impartial in robbing either Christian or Turk. They became, therefore, a kind of banditti, like the Scotch highlanders, for a period, by the fact that there were few roads in the mountains, and it was difficult to find supplies for armies, and by reason of their mobility. There is a song, translated by Lord Byron, showing the spirit of the race:—

Tambourgi! Tambourgi! thy 'larum afar
Gives hope to the valiant, and promise of war!
All the sons of the mountains arise at the note—
Chimariot, Illyrian, and dark Suliote!

Oh! who is more brave than a dark Suliote,
In his snowy camese and his shaggy capote?
To the wolf and the vulture he leaves his wild flock,
And descends to the plain like the stream from the rock.

The following stanza is interesting at this moment:—

Macedonia sends forth her invincible race;
For a time they abandon the cave and the chase:
But those scarfs of blood-red will be redder before
The sabre is sheathed and the battle is o'er.

I love the fair face of a maid in her youth;
Her caresses shall lure me, her music shall sooth:
Let her bring from her chamber her many-toned lyre,
And sing us a song on the fall of her sire.

Selictar! unsheath, then, our chief's scimitar!
Tambourgi! thy 'larum gives promise of war!
Ye mountains, that see us descend to the shore,
Shall view us as victors, or view us no more."

I do not know whether I ought to go on very much further, except to dwell upon one other point, and that is on the blockhouse system. I see several officers present who can speak on that point; I may mention Colonel Colomb and others—I think Colonel Holden is here; he has written an admirable article on it; and perhaps in the discussion that follows he will throw some light on that subject. One thing is clear—that the Germans, in 1871, established something like it, but not identical with it. The Spanish in Cuba sent lines of block-

houses right across the island. The Spanish sent 100,000 men to Cuba in a small space of time, but they were held in check by Maceo and Gomez and others, with, at the most, 30,000 men. Therefore, the Trocha system (as they called it) or blockhouse system (as we call it) failed in Cuba. Bugeaud applied it in North Africa; the British applied it in South Africa. Perhaps some skilful officers will tell us whether it is the best system or not. One thing is quite clear—that De Wet utterly repudiates and despises it. He says it produced no effect on him whatever, and that if the same number of men and amount of energy had been expended in other directions, the war would have been over very much sooner. I cannot lay down any doctrine with regard to his accuracy; I merely put the point forward for discussion.

Perhaps it would weary the audience if I go on further; I know the rules of the Institution as to time. I have before me here a formidable display of literature—but not nearly as formidable as it might easily be made—dealing with this most interesting class of warfare—the class of warfare that enables an individual person to display most energy; a class of warfare that will be admirably suited to the British. In the Peninsula War the British, in line, invariably repulsed a superior number of excellent French troops in column—showing that their individuality was good. Moreover, the British officer has the habit, in the north of India, and in the islands of the sea, of taking upon himself at an early age command of different localities. There are thousands of them so employed all the year round, from Somaliland to Nigeria, and from the Salween to the Indus. As I said before, he is a man that fights during his career six times for the once that a German or a French officer fights in his career. Again, we saw the admirable manner in which the sergeants of the Guards, and other non-commissioned officers and privates, in the Peninsula, Crimea, Egypt, and the Indian Mutiny, were able to assume and discharge responsibility; and I hold that, inasmuch as we have territories in North Africa, South Africa, Somaliland, Algeria, where our men must go and assume responsibilities, or must face ruthless extermination—and in the north-west of India—that it will become us to spend, at least, a part of our time in looking through the records to which I have so hastily referred—suppose we get into any strait, either against a Power like Abyssinia (which is a very different military zone from what it was a generation ago; a very hard nut to crack) or against Afghanistan—that we may not be taken aback. A very few hours a week for a few months would make one perfectly conversant with abundance of illustrations of how to carry on guerilla warfare; and it was with the object of directing attention to its historical interest rather than to its tactical details that I ventured to trouble you with this lecture to-day.

The CHAIRMAN (Major-General J. B. Sterling): Dr. Maguire, after his very full and interesting relation of facts, is quite willing to answer any questions that can be put in a reasonably short space of time from any of the audience, especially on the points on which there may be any slight obscurity in the explanation he has given. As it seems generally accepted, as far as he has gone, that Dr. Maguire has made good his thesis, I think it is right to return him our most cordial thanks for the goodness he has shown, as a busy man, in coming down to devote considerable time to our interests, because a lecture of this sort is a far longer work than the mere time of delivery. It is a question of hard labour, grafted on to previous education, and matured by a splendid memory. That the last word has been said on guerilla warfare is,

in my opinion, not proved. A fine-drawn line between partisan warfare, guerilla warfare, and banditti, is hardly as easily deciphered as I think my friend Dr. Maguire has ventured to assume. The great point is that in all those three branches of irregular warfare the men are not clothed to be distinguished from the civil population; in fact, in many cases they have assumed the clothing of the enemy, and wilfully and for their own malpurposes. But as regular soldiers, of course, do not do that, to use a sporting term which Dr. Maguire will hardly stand from me, they do not "play the game"; that is to say, we play with a certain set of rules which have not been always accepted, and have not been honourably dealt with by our adversaries. I throw no blame on them, because their forces were not organised and disciplined for war, and they did not know any better; but I am sorry to see Dr. Maguire take any statement from De Wet's book as being true. I have read and studied the book, and although some of the things are true in one sense they are not true in others. There is no such lie as a half lie. There is information to be gained from it, undoubtedly, but I deprecate putting on the same footing De Wet's book and the writings of the man who chose to hide his identity under the name of "On the heels of De Wet." There is no comparison, to those who have followed the war carefully, between the respective values of the statements of the two men. I am sure, Dr. Maguire, on behalf of this audience, and on behalf of this Institution, we return you most hearty thanks for your extreme courtesy in coming here, and for the absolute value, as giving food for thought, of the words you have put before us.

APPENDIX I.

GERMAN ORDERS AS TO GUERILLAS, 1870.

I.—Military jurisdiction is established by this decree. It will be extended to all the territory occupied by German troops, to every action tending to endanger the security of those troops, to causing them injury, or lending assistance to the enemy. Military jurisdiction will be considered as in force and proclaimed through all the extent of a canton as soon as it is posted in any locality forming part of it.

II.—All persons not forming part of the French Army, and not proving their quality as soldiers by outward signs, and who

- a. Shall serve the enemies as spies;
- b. Shall mislead the German troops when charged to act for them as guides;
- c. Shall kill, wound, or rob persons belonging to the German troops, or making part of their suite;
- d. Shall destroy bridges or canals, damage telegraphic lines or railways, render roads impassable, set fire to munitions and provisions of war, or troops' quarters;
- e. Shall take up arms against the German troops;

will be punished by death. In each case the officer in command will institute a council of war, with authority to try the matter and pronounce sentence. These councils can only condemn to death. Their sentences will be executed immediately.

III.—The communes to which the culprits belong, as well as those whose territory may have been the scene of the offence, will be condemned in a penalty for each case equalling the amount of their taxes.

IV.—The inhabitants will have to supply all necessities for the support of the troops. Each soldier will receive daily 750 grammes

of bread, 500 grammes of meat, 250 grammes of lard, 30 grammes of coffee, 60 grammes of tobacco or 5 cigars, $\frac{1}{2}$ litre of wine, or 1 litre of beer, or 0.1 of brandy. The rations to be furnished daily for each horse will be 6 kilogrammes of oats, 2 kilogrammes of hay, and $1\frac{1}{2}$ kilogrammes of straw. In case of the inhabitants preferring an indemnity in coin to one in kind, it will be fixed at 2 francs each soldier daily.

V.—All commanders of detached corps will have the right to order a requisition of provisions needful to the support of their troops. The requisition of other articles judged indispensable to the army can only be ordered by generals and officers acting as such. In all cases, nothing will be demanded of the inhabitants except what is necessary for the support of the troops; and official receipts will be given for everything supplied. We hope, therefore, that the inhabitants will not offer any obstacles to the requisitions which may be deemed necessary.

VI.—With regard to individual bargains between the troops and the inhabitants, we fix as an equivalent for 1 franc, 8 silbergros or 28 kreutzers.

The General Commanding-in-Chief the Third German Army,
FREDERIC WILLIAM,
Prince Royal of Prussia."

APPENDIX II.

TROCHAS.

Spain sent 100,000 men across the sea in a short time, against about 30,000 Cubans. In 1896 Weyler failed to show any military ability. Instead of pursuing his defiant foe with cavalry, and using bodies of infantry to occupy the country and cut off his retreat, he wasted his strength in the old exercises of trocha building, extending a defensive line across the island from Mariel to Majuna—a work which it took two months to construct and 15,000 soldiers to guard: a force sufficient, one would think, to clear the province of invaders.—Morris's *American War with Spain*.

APPENDIX III.

CENTRAL INDIA: PINDÁRIS.

Under the circumstances that have just been described, the marauding bands of Central India, like the Free Companies of mediæval Europe, had prospered and multiplied, until, in 1814, Amir Khan, a notable military adventurer, was living upon Rajputana, with a compact army of at least 30,000 men and a strong artillery. That a regular army of this calibre should have been moving at large about Central India, entirely unconnected with any recognisable government or fixed territory, acknowledging no political or civil responsibility, is decisive evidence of the prevailing disorganisation. But Amir Khan's troops were under some kind of discipline; they were employed upon a system in some degree resembling regular warfare, their commander's aim being to carve out a dominion for himself. The true Pindári hordes had no other object but general rapine. They were immense bands of mounted robbers; their most popular leader, Cheetoo,

could number no less than 10,000 horsemen. They could only subsist by irruptions into rich and fertile districts, and they were a perpetual menace to the country possessed or protected by the British power. It cannot be doubted that they maintained a secret understanding with the independent Maratha rulers at Poona, Nagpore, and Gwalior, who were not particularly anxious to join in the suppression of armed bodies that spared Maratha districts, while they harried British lands and the Nizam's country, and who probably remembered that in any future attempt to make head against British domination the Pindáris might prove very serviceable auxiliaries. — "British Dominion in India" (Lyll), p. 255.

APPENDIX IV.

GUERRILLAS IN VENEZUELA.

"The insurrection which resulted in Venezuelan independence broke out in 1810. More than once the patriotic party seemed on the point of being crushed; and the cause of the revolution was seriously endangered by the earthquake which destroyed Caracas in 1812. The indirect consequences of this disaster were even more deplorable than the catastrophe itself. It certainly prolonged the ruinous war for years, and greatly intensified its horrors. The event having taken place on Holy Thursday, the first anniversary of the declaration of independence, the priests—nearly all of whom belonged to the Spanish party—declared that the hand of God had wrought the mischief in order to crush the revolution. Most of the towns besieged by the Spaniards fell into their hands; and Miranda (general-in-chief of the insurgents) capitulated, leaving the remains of Caracas to its old masters.

But the revolution broke out again, thanks especially to foreign aid. Owing to its geographical position in relative proximity to the Antilles, North America, and Europe, Venezuela received more volunteers from abroad than any of the other revolted provinces. As many as 9,000 English, American, and French are said to have served in her armies, besides 1,000 blacks from Haiti. But the same geographical position also facilitated the landing of Spanish troops. The issue might have been long retarded but for the action of the *llaneros* (the cowboys of the *llanos*), who, at a critical moment, joined the revolution, and, under their leader, Paez, introduced a system of guerilla tactics, against which the resources of regular warfare proved ineffectual. After eleven years of incessant struggles, the battle of Carobobo put an end to the Spanish dominion, and the former 'capitaneria' of Caracas became an integral part of the great republic of Columbia, which also included Ecuador and New Grenada. In the collective war of South American emancipation the merit of final success was largely attributed to the Venezuelan general and diplomatist, Simon Bolivar. Every town in Venezuela has perpetuated the memory of the 'Liberator' by naming some street or erecting some public monument in his honour."—"The Universal Geography," by Reclus.

APPENDIX V.

COSSACKS.

"In April, 1899, the Emperor approved of new regulations for the action of Cossacks when in 'lava.' 'The "lava,"' wrote the Cossack

General Krasnov, 'is not, properly speaking, a formation of manœuvres; it is the whole tactical system of the Cossacks, and its form varies with each particular case.' It is combat on horseback in open order, leaving to each man his individual initiative, and to each leader the means of profiting by all the favourable chances of the combat. Thanks to the intervals between the horsemen, the latter can move with rapidity over all sorts of ground, and cross obstacles as easily as if they were alone.

GENERAL PRINCIPLES OF COSSACK TACTICS.

The continual state of war in which the ancient Cossacks lived made them hardy horsemen, and developed their *coup d'œil* and their initiative. They were very skilful in single combat, which was favoured by their open order of formation; but they were always supported by small bodies in close order. It was this formation—which was taken from the Tartar cavalry, and called 'lava'—which enabled the Cossacks to weaken the enemy by isolated actions, and then to fall upon him in close order, so as to strike a great blow.

From the rapidity and ease of its transformation, the 'lava,' in the hands of intelligent men—warriors by nature, good horsemen, and thoroughly understanding the wishes of their leaders, can be made applicable to a great variety of circumstances, especially when it is required—

1. To make a strong reconnaissance.
2. To oppose the enemy's reconnaissances.
3. To form a manœuvring screen.
4. To direct the enemy's attention from the real point of attack, and entice him to some false manœuvre likely to expose him to unexpected attacks from the main body of the forces.
5. To pursue an enemy in retreat."¹

As so much has been said on the Continent about the supposed barbaric methods of our troops in South Africa, it may be as well to set forth the proceedings of the Cossacks during the recent operations in China. For the translation of the Russian narrative of these "incidents" I am indebted to the *Sunday Sun*. As the Cossacks must play a leading part in any Muscovite expansion, it is just as well to put some of their vigorous and very effective manœuvres on record:—

RUSSIAN "METHODS OF CIVILISATION."

The following is an extract from an article appearing in the *Vyestnik Evropei* for January last, signed "A. V. Verestchagin" (who states that he was attached to the Governor-General of the Amur District), describing his experiences on a journey from St. Petersburg to and in Manchuria:—

"While I was sitting at breakfast in the coffee-room (at Blagovestchensk) I saw a carriage drive rapidly up to the entrance, and an officer in police uniform stepped out. At that time (July, 1900) the only subject of conversation in the town was the drowning of the

¹ For further details of Cossack organisation, see Colonel Granville Brown, R.A., *Journal R.A. Institution*, April, 1901.

Chinese inhabitants in the Amur. Although about three weeks had already passed since that event took place, it was spoken of with as burning an interest as if it had happened only twenty-four hours ago. 'Here's a man,' thought I to myself, 'with whom it would be interesting to have a talk on the subject of that catastrophe,' and went up to him and introduced myself. After an interchange of greetings, I took him to my room, and our conversation commenced.

'Tell me,' I began, tentatively, 'who gave the order for the Chinese to be drowned?'

'Well, nobody gave an order for it,' he quietly answered, as he emptied a glass of lemonade; 'but directions were received from the President of the Military Board to collect all Chinamen, and drive them to the river bank at Upper Blagovestchensk, where the Amur is narrowest, and there to ferry them over to the further bank. I told the police inspector to carry out the order, and he took sixty Cossacks with him, and drove the Chinese to the spot mentioned, but no ferry boats were there. Well, then they began to drive them straight into the water, for a panic fell upon all.'

'How many do you think were drowned?' I asked.

'Well, there must have been a large number,' replied my new acquaintance, 'as they drove them in three different lots.'

COSSACK CRUELTY.

That was all I could get out of him. In the evening of the same day I went to the landing-stage to ask when the next steamer would start for Chabarousk, and, sitting on a bench, had a talk with the booking-clerk, a very nice and respectable old man. 'Do you see that big stone house opposite the landing-stage?' he asked, pointing towards it with his finger. 'The whole first storey used to be occupied by a Chinese store, the owner of which was a fat old man, who had carried on business there for thirty years. He was very rich, quite the millionaire, and a real good sort. Many is the debt he forgave us Russians every year. We were on quite neighbourly and friendly terms with him. Well, when they began to drive the Chinese out of their houses, they drove him out also, and, being such a well-known character, he wasn't accustomed to rough treatment. Everybody in the town respected him, and he had carried out large monetary transactions in the past. On that day the heat was stifling, and my Chinese friend was puffing and blowing. Directly he saw me he rushed to embrace me, and caught me round the knees. "Ivan, Ivan!" he screamed, "save me!"' He pulled out his pocket-book and said, "See, here are forty thousand roubles; keep them for yourself, only save me." I said, "I am only a small man; what can I do?" and at that moment a Cossack caught him across the back with a whip and drove him on, and I never saw him again.' The clerk related all this so openly and with such a sincere tone, that I had not a shadow of reason for doubting his words. I could see that fat Chinaman in my mind's eye, all red and sweaty from the heat, in his blue silk dressing-gown, driven forward with the rest of the crowd by Cossack whips.

TEN THOUSAND VICTIMS.

Certainly it was a great scandal to destroy a peaceful population some thousands in number. They say they killed 3,000, but others

have assured me that pretty near 10,000 perished. Will the truth ever be known? God knows. But one must enter into the feelings of our fellow-countrymen. Half the population of the town was Chinese; and suddenly firing began on the opposite side of the river. And who was firing? Why, fellow-countrymen and co-religionists of that Chinese population. It is easy to understand the angry feeling occasioned. The whole town was convinced that a plot existed between the two parties—those inside and those outside the town—to kill all Russians. There were practically no troops on the spot, with the exception of one battalion of Reserves. Arms also there were none. And so, when the shooting began, one can quite understand how the Russians rushed to the authorities to obtain weapons, and entreated them to remove the Chinese to the opposite bank. And when the Chinese were driven in a herd to the bank, and it turned out that there were no means of ferrying them across, that catastrophe naturally occurred which was fated to occur.

A TERRIBLE SPECTACLE.

On board the steamer I sat on the bench by the pilot, and gazed with admiration at the surrounding panorama. 'But what is that ahead?' I asked; 'those black objects in the water, which are coming nearer and nearer?' Their number continually increased, and their outline became more distinguishable. 'Chinamen,' answered the old pilot, in a low voice, and as unconcernedly as if he were talking of a shallow or a sandbank. On the wrinkled face of the old man, with its sparse, brownish beard, a contemptuous smile appeared, which seemed to say, 'Is it worth while to pay attention to such trifles?' The pilot was not mistaken.

APPENDIX VI.

ALBANIANS AND MONTENEGRINS.

Even now, if we would become acquainted with a social condition recalling the Middle Ages, we must go amongst the independent tribes of Northern Albania. On crossing the Matis we at once perceive a change. Everyone goes armed; shepherds and labourers carry a carbine on the shoulder, and even women and children place a pistol in their belts. Families, clans, and tribes have a military organisation, and at a moment's notice are ready to take the field. A sheep missing in a flock, an insult offered in the heat of passion, may lead to war. Not long since the Montenegrin was the most frequent disturber of the peace, for, shut up in his sterile mountains, he was often obliged to turn brigand in order to sustain life, and laid under contribution the fields of his neighbours. The Turks have at all times nourished this hatred between Albanians and Montenegrins. They recompense the warlike services of the tribes of the border clans by exempting them from taxation, and allowing them to govern themselves according to their own laws. Let these amenities be touched, and they will make common cause with their hereditary foes of the Black Mountains.

MIRDITS.

The Mirdits are typical of the independent tribes of Northern Albania. They inhabit the high valleys to the south of the gorge

of the Drin, and, though hardly numbering 12,000 souls, they exercise, in consequence of their warlike valour, a most important influence in all Western Turkey. Their country is accessible only through three difficult defiles, and they hold command of the roads which the Turkish troops were obliged to follow when operating against the Montenegrins. The Sublime Porte, well aware how difficult it would be to subdue these redoubtable mountaineers, has endeavoured to attach them, showering honours upon them, and granting them the most complete self-government. The Mirdits, on their side, though Christians, have fought at all times most valiantly in the ranks of the Turkish Army, in Greece, and the Morea, as well as against their fellow-Christians of Montenegro. They are formed into three 'banners' of the mountains and two of the plains, and in times of war are joined by the five banners of Lesh, or Alessio. The banner of the renowned clan of Orosh takes precedence of all others."¹

The vendetta is exercised in an inexorable manner, and blood cries for blood. A violation of hospitality is punished with death. The adulteress is buried beneath a heap of stones, and her nearest relative is bound to deliver the head of her accomplice to the injured husband. It need hardly be said that education is at a very low ebb amongst these peoples. There are no schools, and in 1860 hardly fifty Christians of the Mirdit country and of the district of Lesh were able to read. Agriculture, nevertheless, is in a relatively advanced state. The valleys of the sterile mountains are cultivated with a certain amount of care, and they produce finer crops than do the fertile plains, inhabited by an indolent population. By a strange contrast, these direct descendants of the ancient Pelasgians—to whom we are indebted for the beginning of the civilisation in Europe—still number amongst the most savage populations of our Continent. But they, too, must yield in time to the influence of their surroundings. Until recently the Epirotes and southern Shkipetars left their country only in order to lead the easy but degrading life of mercenaries. In the last century the young men of Acroceraunia sold themselves to the King of Naples, to be embodied in his regiment of "Royal Macedonians," and even in our own days not only Mohammedans, but also Christian Tosks, enter the service of pachas and beys. These men, known as Arnauts, may be met with in the most remote parts of the Empire—in Armenia, at Bagdad, and in Arabia. On the expiration of their term of service, the majority of these veterans retire to estates granted them by Government, and this accounts for the large number of Arnaut villages met with in all parts of the Empire.

The most desperate valour has always been displayed by Albanians. For example, in the dread days of Ali Pacha—a romantic leader, whose career was famous and infamous at the beginning of the last century—heroism beyond compare was attributed to the Suliotes; not a man, woman or child could be persuaded to beg for mercy from his desperadoes. Certain women, indeed, set fire to the ammunition, and then, hand in hand, precipitated themselves from the rocks or sought death in the mountain torrents, chanting the while the funeral songs of their ancient and honourable race. And this feminine intrepidity was the more marvellous as these women have a miserable position compared with their western sisters.

¹ "The Universal Geography," by E. Reclus, p. 123.

An Albanian woman is sold to her husband for a small payment in money and kind. She is supposed to have no rights or mind; she works for her husband as the "ever active shuttle," while he is the "majestic ram, marching at the head of the flock." Yet how incomparably nobler she is than the free and easy and domineering and lazy wife of a London labourer or mechanic; physically and morally, I fancy she is far the better woman of the two.¹

According to a recent census, Montenegro is said to have about 220,000 souls. This may be an exaggeration; but the country is not even able to support 120,000 inhabitants without drawing supplies from beyond; and the armed incursions into neighbouring districts might thus be excused as an 'economical necessity.' Death from hunger or on the field of battle was often the only alternative. The Montenegrin prefers the latter, for he does not fear death—and 'may you never die in bed' is a wish universally expressed at the cradle of a new-born infant. If a man was unfortunate enough to die of disease or from old age, his friends excuse him euphemistically by charging the 'old murderer' with his death.

We here find ourselves in a labyrinth of cavities, valleys, and depressions, separated by craggy, calcareous ridges, abounding in narrow fissures—the hiding-places of adders. Only the mountaineers are able to find their way in this inextricable labyrinth. "When God created the world," they will tell you, laughing, "He held in his hand a sackful of mountains. Right above Montenegro the sack burst, and hence the fearful chaos of rocks which you see before you." Seen from an immense height, Montenegro resembles a vast honeycomb, with thousands of cells, an appearance which is due to the aqueous agencies.

"The Montenegrins are the kinsmen of the Servians of the Danube; but their life of almost incessant warfare, the elevation and sterility of their country, as well as the activity of the Albanians, have developed special features amongst them. The quiet life of the plains is unknown to the Montenegrin; he is violent, and ready at all times to take up arms; in his belt he carries a whole arsenal of pistols and knives, and even when working in the fields he has a carbine by his side. Until recently the price of blood was still exacted, and a scratch even had to be paid for. This blood-vengeance was transmitted from generation to generation, until the number of victims was equal on both sides, or a monetary compensation, usually fixed at ten sequins, had been accepted. Cases of hereditary vengeance are now rare; but the ancient custom could be only suppressed by a law of terrible severity, which punishes murderers, traitors, rebels, thieves twice convicted, and scoffers at religion, alike with death. Compared with the Servian of the Danube, the Montenegrin is a barbarian: nor is his personal appearance equally prepossessing."²

¹ It has been conclusively proved at Glasgow, and by Sir F. Maurice and Dr. Duffield, that the average English wife and mother is a degenerate, and that she does more to ruin her husband and to weaken her children than either alcohol or any other form of vice. Regeneration and the elevation of our race must begin by vigorous and rigorous treatment of our females of all ranks.

² "The Universal Geography," by Reclus, p. 181.

APPENDIX VII.

FEMALE GUERILLAS.

During the Spanish war women were, unfortunately, allowed to act as belligerents, and Byron's eloquent tributes to the Maid of Saragossa cast a halo round their military exploits which they did not merit. If women play the part of warriors, they must be treated as men and shot, bayoneted, starved, crowded together with men in casemates, put in guard-rooms, and harried without mercy, even as they show no mercy. Byron complains of French atrocities on Spanish women: surely if they would play the rôle of guerillas they could only expect to be treated as guerillas, especially as they were abominably, indeed indescribably, cruel to French prisoners. Before dismissing the treacherous and vindictive female warriors from our pages it may be well to remark that the Spanish women in South America preserved the martial qualities of their European ancestors. During the long conflicts in South America in the first half of the last century, women were largely employed as regular, as well as irregular, soldiers.

I quote part of a most interesting article—of course, also most prejudiced and full of misplaced gallantry—from the *Buenos Ayres Standard* of 1826. It appears that South African commandoes of women would be quite in accordance with South American precedent, especially in a *guerra de recursos*!

I take it also that our pro-Boer editors would be as angry as their Buenos Ayres brethren of the pen if our soldiers dared to defeat female antagonists.

"Lieut.-Colonel Margaret Ferreira and Captain Anita Gill are the female officers in command at the pass of the river Tebicuari, where a very respectable force of girls and women is held under arms, to dispute the passage of the river by the allies.

This is the tenor of the advices that last came down from Paraguay; and every well-informed person in military matters knows that they are correct.

Brigadier-General Eliza Lynch, with the main body of the female army, is encamped midway between the pass of a river and a small inland town. On the road to Villa Rica, the right wing of her army, under the command of the mother of Captain Herrero, has deployed slightly to the left, so as to hang on to the invaders should they effect a crossing of the river and cut up Mrs. Colonel Margaret Ferreira and her heroic girls.

Relays of girls and women keep constantly arriving at the headquarters of the female commander-in-chief. From what we gather from letters and statements, it would seem that the male portion of the Paraguayan Army is very much reduced, and are occupied in defending the fortress of Humaita, the positions near Timbo, the encampment at Villa Rica, and the fortifications at Lambare. The guerilla portion of the campaign, or what is here called the *guerra de recursos*, is entrusted to the women of Paraguay; and reliable data suggest that troops to the north, near the Tranquera Loreto, are exclusively composed of women.

As to the exact number of women under arms in Paraguay at present it is impossible to say, owing to the varied and conflicting statements; but for years past a great portion of the heavy work attending on camp life has been performed by the unfortunate daughters of that once lovely country!

Even in the trenches around Humaita the weak arm of woman has shovelled out the earth to make a grave for the allied invaders! Female chasseurs have gone from point to point over the country with despatches; the steamers and vessels in the port of Ascension have been discharged and laden by the trembling hands of the women in the capital. Everything of worth and value that these poor women possessed has been snatched from them to assist in the defence of their country. They have toiled in the field for the last four years; they have sowed, raised, and harvested the crops; they have made clothes for the soldiers from fibres of plants; they have maintained the hospitals, cared for the wounded and the sick; they have supplied the Army; and now, with Satanic power, they are dragged to the front and placed in the breach to fight the whole allied Army."

APPENDIX VIII.

A CONFEDERATE PARTISAN.

The position of a leader of a Free Corps is far more dangerous than that of a regular general, and the casualties among them were frequent. The interest attaching to the fight near Harrisonburg, 6th June, 1862, between Jackson's rear-guard and Fremont's advance, does not grow mainly out of the engagement itself, which was comparatively unimportant, but out of the fact that it was the occasion of the fall of General Turner Ashby.

This gallant soldier had led the life of a Virginia country gentleman on his property in Fauquier County, Virginia, until the outbreak of the war. He at once took up arms, and entered the service at the head of a company of horsemen (known as the Mountain Rangers), composed of his friends and neighbours. He soon became pre-eminent for dash and courage.

Not for these alone. In him the qualities that most excite admiration in a soldier were happily united to those that most excite enthusiastic affection and devotion. Insensible to danger, or oblivious to it, the more daring an enterprise the greater its attractions for him. Of great energy and ceaseless activity, he was ever on the alert; and his name had become a dreaded one by the foe. With such qualities were united the utmost generosity and unselfishness, a delicacy of sentiment and feeling equal to a woman's, and a respect for the rights of others which permitted, within the limits of his authority, no outrage on friend or foe.

Says Jackson in his official report:—"An official report is not an appropriate place for more than a passing notice of the distinguished dead; but the close relation which General Ashby bore to my command for most of the previous twelve months will justify me in saying that as a partisan officer I never knew his superior. His daring was proverbial, his powers of endurance almost incredible, his tone of character was heroic, and his sagacity almost intuitive in divining the purposes of the enemy."

APPENDIX IX.

RUSSIAN PARTISANS, 1812-14.

For popular purposes Alison's summary of the work done by Russian partisans is well worth extracting:—"Meanwhile, though a species of armistice reigned between the main armies, a destructive warfare began on the flanks and rear of the French position, which proved of the utmost moment in the sequel of the campaign. After the example of the Spaniards, the Russians established a chain of partisans round the invading army, which cut off all their foraging parties, and, growing bolder from success, soon held them almost imprisoned in their cantonments. The militia of the contiguous provinces, aided by the Cossacks of the Don, formed a vast circle round Moscow, occupying every road, and cutting off all supplies of provisions to the Emperor's forces. The want of forage was soon so severely felt that the cavalry were obliged to penetrate to a considerable distance in quest of subsistence; and these detachments in most cases fell into the hands of the numerous detachments of the hostile circle. So early as the 10th October, General Dorokoff captured a whole regiment of Westphalians and large magazines in the town of Vereva; while Colonel Davidoff, on the great road to Smolensko, destroyed numerous detachments, even of the Imperial Guard.

This latter officer had the merit of recommending, and himself setting the example of the organisation of this formidable species of force in the Russian war; and the events soon proved that it was calculated to effect far greater changes there than in the mountains of Spain, as the long line of communication in the French rear was open to their attacks, and the irregular hordes from the Don furnished an ample supply of troops admirably adapted for this kind of warfare. During the first three weeks of October the partisans round Moscow made prisoners of no less than 4,180 French soldiers; and the reports from Murat announced the alarming intelligence that one-half of the whole surviving cavalry had perished in these inglorious encounters."

Free Corps are generally found operating on flanks; if the war be offensive they must soon return to the main body, in search of protection from the attacks of the invaded people; but in defensive wars they can act independently for long periods, and they do not hesitate to assail the enemy's lines of communication. Their success produces great results, and their failure is relatively unimportant, because of their mobility, and their annihilation would not be as ruinous to the interests of their nation, as a body of a few thousand men is a trifle in a modern campaign. These attacks on lines of communications are vital movements. "The secret of war," said Napoleon, "is to preserve one's own communications while threatening those of the enemy." But, after all, Free Corps, partisans, or guerillas do not decide the issues of great wars, though they can give tremendous trouble. Even big raids, as we shall see in connection with the Civil War in America, were very annoying, but they did not materially affect the main issues.

APPENDIX X.

WELLINGTON ON UNFAIR GUERILLAS.

Wellington's moderation was well known; he went so far as to protest most strongly against the sack of stormed towns, which in his

time was a point of usual military etiquette. After he invaded France he was welcomed by the friends of the old dynasty, and he was only too pleased to protect the peasantry; yet he would not allow irregular raids in his rear or duplicity among the peasants. I quote his order:—

“The conduct of the people of Bidarry and Baigorry has given me the greatest pain. If they wish to make war, let them join the ranks of the enemy; but I will not permit them to play the part alternately of peaceable inhabitants and soldiers; I give them warning that if they persist in making war, they must join the enemy's ranks and become soldiers: they must not remain in their villages.”

In this proclamation there was nothing in the slightest degree unjust; it trenched on none of the natural rights of man to defend his country. It merely denounced as pirates and robbers those who neither yielded the submission which is the condition of protection to the citizen, nor assumed the profession which gives the privileges of the soldier.

APPENDIX XI.

THEATRES OF OPERATIONS OF THE PRINCIPAL FOREIGN SMALL OR GUERILLA WARS IN MODERN TIMES.

America.

- 1876-90.—Americans against Red Indians—Big Horn, Custer, Sioux, Sitting Bull, etc.
 1845-48.—Mexican War.
 1899-1902.—Americans in the Philippines.

Europe.

- 1878-80.—Balkans (in every direction). Bosnians against Austria. Severe guerilla war (1882).
 1830-40 and 1872-76.—Carlists in Spain.
 1824-59.—Caucasus. Mountain guerillas *versus* Russia. Schamyl 500 years till 1878.—Montenegrins against Turks.
 1831, 1846, 1861, 1863, and various minor revolts.—Poles' risings against Austria and Russia.
 1808-14.—Spain. Guerilla.

Africa.

- 1830-49 and 1870.—Algeria. Arabs against French.
 1890-94.—Dahomey. French.
 1887-90.—Eritria.
 1884 and 1895.—Madagascar. French.
 1892-95.—Morocco. Spanish.
 1880-1882.—Tunis. French.

Asia.

- 1873 till now.—Achin (in Sumatra). Dutch.
 1882-95.—Tonkin. French.
 1863-84.—Turcomans—Bokhara, Khiva, Denghil Tope.
 1871-4.—Usbegs. Internecine strife for ages.
 Since 1859.—Warfare between Russians and various Central Asian tribes.

APPENDIX XII.

PRINCIPAL OPERATIONS OF THE BRITISH NAVY AND ARMY IN THE
REIGN OF QUEEN VICTORIA.

*More numerous than the operations of all the other Armies of Europe
put together.*

Europe.

- 1837-40. De Lacy Evans in Spain.
1854-56.—Gallipoli, Varna, Crimea—Varna, Balacava, Inkerman, Tchernaya. Defence of Silistria (Butler and Nasmyth). Actions of the Navy under Napier and Lyons, 1854-56.
1878.—Indian troops in Malta. Admiral Hornby in the Sea of Marmora.

Asia.

- 1839.—Aden taken by Captain Smith.
1839-42.—Afghanistan. Massacre at Kabul and the Khoord-Kabul Pass. Tazeen. Recapture of Kabul by Pollock.
1840.—Beyrout, Sidon, Acre. Operations of Stopford and Napier against Ibrahim Pacha.
1856-57.—Persia. Bushire taken by Leeke and Stalker. Persians defeated by Outram at Kooshab and Mohammerah.
1856.—Defence of Kars by William. A splendid affair.
1878-80.—Ali Musjid, Advance on Kabul. Fattehabad. Kabul massacre. Kabul re-occupied. Sir D. Stewart's march. Shutargardan, Charasiab, Sherpur, Ahmed Khel, Ghazni, Maiwand. Roberts' celebrated march to relieve Kandahar. Mazra.

India.

- 1843.—Scinde. Ameers defeated by Sir Charles Napier at Meanee. Gwalior, a great fortress, supposed to be impregnable, taken.
1845-47.—First Sikh War. Ferozepore. Harding's victory at Moodkee. Gough and Gilbert at Ferozeshah. Smith at Aliwal. Gough at Sobraon.
1848-49.—Second Sikh War. Kennyree, Ramnuggar, Chillianwallah, Goojerat, Mooltan.
1851-53.—Burmese War. Irrawaddy blockaded by Commodore Lambert. Martaban, Rangoon, Bassein, Pegu, Prome.
1855-56.—Sonthals suppressed.
1857-59.—The Sepoy Mutiny. Meerut, Cawnpore, Delhi. Lucknow twice relieved. Punjaub saved by Lawrence. Marches and victories of Nicholson, Niell, Havelock, Outram, Greathead, Olpherts, Campbell, Jacob, Grant, Lugard, Wilson, Roberts, and others. Revolt of the Gwalior contingent. Brilliant services of Rose, Mitchell, and Mansfield. Peel and the Naval contingent.
1861.—Sikkim War.
1863.—Chamberlain and Garvock on north-west frontier. Victory in the Chamta Pass.

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1861.—Sikkim War.
1863.—Chamberlain and Garvock on north-west frontier. Victory in the Chamta Pass.

- 1864-65.—Bhutan War. Dhalimcote, Dewangiri.
 1871-72.—Looshai War. Operations of Nutthall and Bouchier amidst dense forests and great mountains.
 1874-75.—Expedition against Duffla tribes.
 1875.—Naga tribes corrected.
 1877.—Jowaki-Afridi War, north-west frontier. Jummo taken by Keyes.
 1881.—Wazaris defeated.
 1884.—Akkas defeated (Assam). Zhob Valley Expedition against Kakar-Pathans.
 1885-86 and 1886-94.—Burmah. Mandalay taken. Bhamo taken. Frequent fights with Dacoits, Kachens, Chins. Many minor expeditions in Northern Burmah.
 1888.—Sikkim. War with Tibetans. Colonel Graham in the Jelapla Pass. Black Mountain Expedition. Kotkai. Channer at the Gorapher Peak (9,500 feet high).
 1889.—Tipperah Hill Tribes.
 1890.—Expeditions against Chins, Lushais, and Haskas. Road making between Upper Burmah and Lower Bengal.
 1891.—Black Mountain again. Machai Peak, Manipur. Lockhart in Miranzai Valley. Hunza and Nagar. Gilgit, Nilt.
 1892.—Isagai Field Force.
 1894.—Mashud Waziri Wano. Converging movement on the slopes of the Pir Ghal Mountains.
 1895.—Chitral Campaign. Malakand Pass, Shundur Pass (12,000 feet high), Panjkora River, Mainkalai. Siege and relief of Chitral.
 1897.—Swat Valley, Buner.
 1897.—Tirah.

China.

- 1839-42.—Naval Encounters. Bogue Forts. Canton threatened. Hong Kong taken. Amoy, Chusan.
 1855-58.—Sir M. Seymour and Elliot destroy Chinese Navy. Canton bombarded. Peiho Forts.
 1860.—Taku Forts. Peking taken.
 1863-64.—Gordon's exploits against the Taepings.
 1900.—Peking, and various actions by British and Indian Troops and Naval Forces, with many allies.

Africa.

- 1850-52.—Kaffir Wars. Waterkloof: the Kaffirs defeated by Cathcart. Reinforcements on board the "Birkenhead."
 1851.—Lagos taken by Commodore Bruce.
 1868.—Abyssinia: Arogee, Magdala. Sir R. Napier's remarkable expedition from Annesley Bay and back again. Great difficulties of transport.
 1873.—Ashantee. Commodore Commerell on the Prah.
 1873.—Langalibalele defeated.
 1873-74.—Sir Garnet Wolseley's march on Kumasi.
 1877.—Kreli defeated.
 1878.—Sandilli defeated.
 1878-79.—Zulu War. Echowe, Isandlwana, Rorke's Drift, Itombi, Kam-bula, Ginghilovo, Imbabani, Ulundi.

- 1879.—Secoconi's kraal captured by Baker Russell, with British and Swazis.
- 1879-82.—Moiroso, Lorotheodi, Umhlontho, Masupha, and other chiefs troublesome.
- 1880-81.—Boer War. Bronker's Spruit, Laing's Nek, Majuba Hill, Potchefstroom.
- 1882.—Egypt. Fortifications of Alexandria bombarded by Sir B. Seymour, July 11th; Marines landed July 13th. Ramleh, Mahmoudieh, Port Said, and Ismailia occupied. Chaloux, Mahsameh, Kassassin, Tel-el-Kebir, Cairo, Damietta.
- 1883-96.—Soudan. Actions by Hicks, Baker, Gordon, Admiral Hewett, Graham, Chermide, Earle, J. Stewart, H. Stewart, Maurice, Lord Wolseley; Korti, 1st December, 1884; Buller, Wilson, Beresford, Brackenbury, Wood, McNeil, Watson, Wodehouse, H. Smith, H. Grenfell, Hunter, Kitchener, and others. Many engagements (among the most desperate hand-to-hand, against superior numbers, since Agincourt).
- Observe the part played by Seamen and Marines in most of our modern campaigns. The Navy has done very well indeed by land during the Queen's reign.
- 1882-90.—British South Africa. Dispute with Portugal about Makololo and Nyassaland. Selous exploring. Gunboats up the Zambesi.
- 1891.—Limpopo River. Quarrel with Portuguese about Massikessi. Dispute about the Pungwe River.
- 1891.—British Central Africa. Johnston and Maguire against Arabs.
- 1892.—British East Africa. Witu, Somalis.
- 1892.—Jebus defeated by Colonel Scott.
- 1893-94.—Chartered Company. War with Lobengula: Macloutsie, Intaba, Zimbi, Shangani River, Buluwayo.
- 1895.—Kumasi again entered by the British.
- 1896.—Great variety of actions in the Matopopo Hills, on the Gwelo River, and Mashonaland, by Colonel Plumer, Colonel Baden-Powell, Colonel Alderson, and others.
- 1897.—Admiral Rawson's expedition to Benin.
- 1897.—Major Arnold's operations at Bida and Ilorin.
- 1899-1902.—Boer War.
- 1900.—Ashanti War.

New Zealand.

- 1859-69.—Fights with the Maoris at intervals.

Canada.

- 1837-38.—Papineau rebellion crushed.
- 1870.—Colonel Wolseley at Fort Garry. Red River Expedition.
- 1885.—Riel's rebellion suppressed by General Middleton.

FINANCIAL LESSONS FROM THE LATE WAR.

By Lieut.-Colonel SETON CHURCHILL

(late Army Pay Department).

PART I.

THE test of a great war, like the one through which we have recently passed, has been a very severe one, and it has revealed to us the weak points in our system. Many of these have been pointed out before, but, in times of peace and prosperity, it is very difficult to get reforms carried out. What with vested interests, and a natural reluctance to deal with old traditional abuses which have crept in, it is not always easy for the advocates of reform to obtain a hearing. This war has done for us what we have not been able to do for ourselves, and has shown us that there is not a branch in the Service in which very serious defects have not existed, and advocates of sound, sensible reforms will now find it easier to obtain an audience.

There is no use wasting time trying to saddle the blame on any individual for the shortcomings of the past. The late war will not have been in vain if it enables us as a nation to remedy the defects of the past, and to provide against their recurrence in the future. Many of those who are responsible for the existing defects have ceased to hold official positions, and many of them were themselves the victims of a bad system, and were denied a proper education to enable them to control the machine they had to direct.

No doubt there will be forthcoming officers of each branch of the Service to point out the defects, and to suggest remedies for their particular departments. I will confine myself strictly to the branch in which I had the honour to serve in the late war, which has not brought much credit to us, and which surely needs a considerable amount of reform. As the subject is a large one, I propose to divide it into different parts, as follows:—

Part I.—War Office and Army Pay Department.

Part II.—Paying Depôts and Paying Regiments.

Part III.—Paying individual officers and soldiers.

In pleading for improvement and progress in that branch of the Service in which I served, I am anxious not to transgress the limits of respectful and legitimate criticism. No human systems are perfect; and I fully recognise the fact that it is easy to criticise any system. There is, however, a fair and legitimate spirit of criticism which cannot but be conducive to the healthy welfare of the system to which it is applied; as there is also a captious, fault-finding spirit which cannot but do much injury. My desire is to direct attention to those points wherein our system appears to me to be defective, and leave it to the authorities to decide how far I have been able to prove my case.

The first great lesson that this campaign has taught us is how impossible it is to conduct a great war with the existing machinery at the War Office. There were in that building at the outbreak of the war 26 higher division civilian clerks, assisted by 212 lower division clerks. These men are all under the Financial Secretary, who is an

M.P. selected for Parliamentary ability, but not one who has ever had any previous experience of this branch of the Army. Of course, it is not expected that the Parliamentary Chief of any department shall have had any former special training; but then, that is the reason why he should have under him able, practical men, who have had a great deal of past experience, or it will be a case of the blind leading the blind.

But, as a matter of fact, the Financial Secretary has not got under him a single military officer who has ever been on active service to whom he can turn for counsel. His official adviser is the Accountant-General, a civilian who has never left the War Office, and, therefore, one who has been denied all opportunity of educating himself in finance, so far as war is concerned. On the formation of the Army Pay Department, which is a body of some 209 military financial officers, there were upwards of 80 of these higher division clerks; but as officers of the Army Pay Department called attention to this subject, their establishment has been reduced to 26.

It cannot be emphasised too strongly what an able, hardworking body of officials the War Office civilians are. Were it not for their conscientious, painstaking zeal for the public service, the evils of our existing system would be far more painfully apparent than they now are. They are themselves the victims of a bad system inherited from the past, as they are put into a false position. They have to draw up rules and regulations for conducting the financial operations of a huge campaign, and yet they are denied the opportunity of educating themselves as to the actual wants of an army in the field.

There are certain advantages in having a *small* body of civilian clerks at the War Office, who shall be there permanently, and who shall thoroughly understand the general principles connected with the payment of an army. They form a kind of bodyguard to the Financial Secretary—who comes in and out with each Government—and prevents him from being imposed upon. The Parliamentary Chief must guard himself from being dictated to by an exclusively military body of officials. Added to which, this bodyguard has a distinct advantage in maintaining a continuity of system, and is able to hand down good traditions.

But there is such a thing as *abuse* of a good thing, as well as a proper use; and I venture to submit that the legitimate use of the permanent financial civilians has degenerated into abuse—when they, in their turn, become the dictators to the Parliamentary Chief, and keep from him the practical working officers who have studied financial problems abroad and on active service. For legitimate purposes a staff of 26 civilians and 212 clerks is quite ridiculous in size, and should be reduced by exactly half of each.

Then an equal number of military financial officers might be introduced; and thus the Financial Secretary would have 12 civilians, who would remain permanently at the War Office, and 12 picked military officers, who would have all the advantages of having a practical experience of the wants of the army in the field. The former might remain, as at present, under the Accountant-General, as their permanent chief, whereas the latter might be put under a selected military officer, to be called the "Auditor-General."

The Financial Secretary would then have two counsellors—the one the pick of the civilians, the other the best man of the military financial officers; and when they differed he would be able to decide

between them. If it is absolutely necessary that one should be supreme it might be the permanent civilian, called the Accountant-General; but then the military financial adviser, or Auditor-General, should also have direct access to the Financial Secretary, so that his side of all questions should be heard—as many of the defects that now exist are the result of the Financial Secretary not being brought into contact with the actual working officials, and being advised by men who have never left the office in Pall Mall, and who are denied all opportunity of educating themselves by personal experience.

The law of competition, which is such an important ingredient in all successful enterprises, would thus be introduced, and the civilian and military officials of the War Office would vie with each other in trying to remedy the system under which they had to work. In addition to this, the permanent civilians would soon get to know the best of the military financial officers—with whom they are not now brought much in contact—and, on the other hand, the military financial officers—who go on a campaign—would know better what it is the War Office require of them. As a matter of fact, not a single military officer serving in the campaign in South Africa has ever been engaged in the War Office, until the appointment, on 1st of January of this year, of Colonel Mortimer, C.B.—and he is put into quite a subordinate position.

The consequence of this defect is very serious, for, although the Army Pay Department was formed nearly a quarter of a century ago, the War Office civilians have never exhibited any confidence in the officers—although there are some able men among them, quite equal to any of the civilians in the War Office.

This want of confidence—which is a result of want of knowledge—has had a very serious result on the whole Army, and much inconvenience has been caused thereby. The War Office were compelled to appoint a military financial officer to take charge of the issue of cash and the raising and payment of millions of money, but it refused to grant any final authority to settle financial questions on the spot; so the most ridiculous little questions were referred from South Africa to the War Office, entailing a delay of two or three months. It is to be hoped, for the good of the Army, that if ever a great war takes place some 7,000 miles away from London, that the best financial officer that can be found be selected, with full powers to act on the spot on behalf of the Financial Secretary. It is not likely that a clerk in the War Office would be better able to deal in London with questions of importance, than a carefully-selected, experienced military financial officer on the spot, who knows all the difficulties of the situation.

If we turn aside for a moment to India we see a pleasing contrast to our English financial system. In South Africa there were a large number of officers and natives lent by India. In order to arrange for their payment, an officer of the Indian Military Accounts Department was sent; and though comparatively a junior officer, with much less experience, he had absolute powers of controlling expenditure and giving decisions on knotty questions that might occur. The question arises, Why should not the War Office have treated their selected officer with the same confidence that the Indian Government showed to their representative?

The result of our existing defective system is that we have one system for peace and another for war; one system for home service, and

another for foreign service. Instead of training officers and men, during the many years of peace, for the requirements of war, we have to try and unlearn much of the past, and to start a new system for war, as our financial system is originated by civilians, who are not personally acquainted with the stern realities of war. Even the reforms that have been introduced within the past few years—in the face of much opposition—have been introduced by the advocacy of the military financial officers, and not by that of the civilians.

But in peace time the same defect is seen, for then we have one system for home service, and another for foreign service. Just to give an example from among many:—In Financial Instructions for 1899—the year in which the war broke out—paragraph 144 sanctions the payments of all claims under £100 at home, but directs that all claims over that amount be sent to the War Office. But on foreign service, as well as on active service, there is no limit to the amount of the claim that may be paid without reference to the War Office. As a young major in the Egyptian Campaign, I had to pay many contractors' bills, one of which, I remember, amounted to £35,000; and in the recent South African Campaign, I observe from my cash book that cheques as large as £160,000, £94,000, etc., were issued—showing how on active service all the ridiculous instructions of the War Office have to be set on one side.

Yet in peace time a full colonel in the Army Pay Department could not pay a contractor's bill of over £100! How are officers and clerks to be trained for foreign service and for the responsibilities of war, and the checking of contractors' claims, if they are denied during peace-time at home the education that is acquired by dealing in large figures? Does not this show that the civilian staff at the War Office is not only much too large for its legitimate duties, but that, as employment has to be found for this large staff, it is done at the expense of depriving military officers and clerks of their proper school of training? A too large civilian staff at the War Office not only costs money, but is a cause of a defective executive, which reacts on the Army at large on a campaign.

An experiment is now being made at Aldershot by which a civilian from the War Office is appointed to the staff of the General Officer Commanding the Army Corps, as his financial adviser. This civilian, assisted by a costly staff, also conducts all local audit. Now, as I was the first, I believe, publicly to advocate local audit, and also to plead for an appointment of a financial adviser to the G.O.C., I cannot but feel gratified, though 13 years have elapsed since the proposal was first made, that a step has been taken in that direction. "Better late than never." But one of the unfortunate things that characterises our War Office is that even when they do pick up a good idea, they generally manage to spoil it in some way, and this they have done in the matter of local audit and the appointment of financial adviser to the G.O.C. Instead of putting a picked military man into the position, a civilian has been selected.

The disadvantages of having a civilian in place of a military in this position are very obvious. In the first place, it will be a most costly plan, for if these financial advisers are to be of any real practical use, their number must be increased enormously. It is not enough to appoint them to Aldershot, Salisbury, Dublin, and a few places of great importance. They should be in every place at home and abroad where British troops are stationed, if they are to be of any practical use in

checking waste and extravagance. This will very materially add to the costliness of the financial branch—which at present is ridiculously expensive. It will also result in making the War Office civilian branch much more unpopular than it now is. Sir Ralph Knox stated in his evidence before the Clinton-Dawkins Committee that the best men of the Civil Service were not keen to enter the War Office, and that, therefore, the men who passed good examinations into the Civil Service tried to get elsewhere. Consequently, in the War Office, even as it used to be, we are getting inferior men. But if, in addition, these men are to be liable to be sent about all over the Empire, taking the risk of bad climates, active service, and often separated from their wives and children, we may rest assured that for the future the War Office will be left very severely alone by the best men among the Civil Service candidates, and the Army will only get the sweepings.

But there is also the social question to add to the unpopularity of service of this kind. When an officer goes to a new station, his wife is at once called upon and received by all the ladies of the neighbourhood. But these civilians will hold an invidious position, as they will not be officers, nor will they be residents. They will not be in a station long enough to gather round them a circle of their own friends, as they do now in London and its neighbourhood, yet their wives will not be received as wives of officers are. In addition to disadvantages of this kind, these civilians will be put to all the additional expense of frequent moves, changing houses, etc. To compensate University men for disadvantages of this kind, a very much higher rate of pay will have to be introduced, and this will make the scheme a most costly one. If only the Army Pay Department was better administered, and more care was taken in the selection of candidates, as well as in their training and promotion, we could secure just the same intellectual standard of efficiency from among military men, and they would be very much cheaper, and certainly more efficient. The plan has worked admirably in India, and in some of the Continental armies, and it is not apparent why it should not work in the British Empire, with its large number of scattered garrisons.

It is asserted in defence of the existing system of employing an exclusive body of civilians in financial work at the War Office, that officers of the Army Pay Department are not necessarily financiers, and are, as a matter of fact, only accountants and auditors; and that an officer may be a good accountant, or a good auditor, and yet not a financier. The answer to this, however, is very obvious. Speaking generally, financiers are *born*, and not made; so that the authorities cannot ensure having able financiers from among either the civilians or the military men. But as the 200 officers of the Army Pay Department are, or at all events should all be, men with an aptitude for finance, it is obvious that out of so large a body there is more chance of obtaining a few real able financiers than out of such a small body as that of 26 civilians. I have elsewhere alluded to the definition of a good financier in a military sense, but in order to fulfil the conditions, and to supply the country with the largest number of efficient fighting men for the money the country is prepared to spend, there must be not only a certain knowledge of figures, but there must be also an intimate personal knowledge of the practical details.

The military financial officer has had a long apprenticeship. He has for many years been wearing the shoe, so he knows best where it

pinches. The civilian, who never leaves Pall Mall, has to obtain all his information second-hand, and is thus often misled by those who may have obtained a great reputation in another line, but who have not any aptitude for finance. The gifted author of the *Life of Lord Nelson* has very wisely cautioned us against accepting the views of a man who has obtained a great reputation in another field of work. An officer may be a very able fighting man, but a poor financier. Now, our Army suffers from a double evil. The financiers have no personal experience of the wants of the Army at home and abroad, and so they are compelled to consult those who have no financial experience, and the consequence is that great evils are sometimes bolstered up by great names, but when we come to examine into the circumstances, we find that the great names have been obtained in quite a different line, and that the individual with the great name is absolutely no authority on financial questions—which he has never had time to study. We want, therefore, in our War Office, in addition to a small select body of civilians, a picked body of officers who have made finance a speciality, and who have had the advantage of seeing the difficulties that arise on a campaign.

ARMY PAY DEPARTMENT.

Having considered the defects of the civilian branch of the War Office engaged in military financial work, I will pass on to those of the Army Pay Department, which have been exposed by the severe test of the recent campaign. The Army Pay Department consists of some 209 officers, most of whom have served as captains of companies, or have had seven years' service as a subaltern in one of our regiments. The majority of them are attracted to this branch because they have got married, and either want better pay than falls to the lot of an ordinary regimental officer, or else, like staff officers, they wish to be left for five years in one station, and consequently do not get as much moving about as they would get in their regiments. Some of them exhibit a great aptitude for finance, but others take very little interest in their profession.

One of the lessons of this war has been that the standard of efficiency of the officers of the Army Pay Department, as also of the clerks who assist them, ought to be raised very considerably. There were at the beginning of the war some 650 clerks in the Army Pay Corps. These should be united to the 209 officers of the Army Pay Department, and the whole should form one corps, to be called the Financial Staff Corps, with the following establishment:—

Officers.	Clerks.
30 Colonels	50 Quartermasters
50 Lieut.-Colonels	50 Sergeant-Majors
60 Majors	250 Quartermaster-Sergeants
60 Captains	250 Staff-Sergeants
	250 Sergeants
	250 Corporals
	100 Probationers (Boys)
200	1200

Among the officers and clerks we already have some splendid men, quite on a level with any staff officers or staff clerks; and it is only a question of a little better management when we could level up the whole to that of an ordinary staff officer. If we had better officers and a better system, we should not require nearly so many, as an able officer is quite capable of superintending a larger number of clerks. So I have proposed reducing the officers from 209 to 200, and increasing the clerks from 650 to 1,200, but later on there might be a still further reduction in officers—when we have trained better clerks.

In order to get better officers the Financial Staff Corps must be made a little more attractive than the Army Pay Department now is. It is not necessary to spend much more money on it, as it has been found in the Service that more money will not obtain the best material, if it is associated with other drawbacks. The officers should, during their first five years' probation, be called upon to pass a stiff examination, quite equal to that of a Staff College test; and then all officers in the Financial Staff Corps should be given the status of a staff officer.

The word "department" has been found to be most unpopular in the Service, and the sooner it is abolished throughout the Army the better. The only result of retaining it is that we get inferior officers into these branches in which we require particularly good men, and the consequence is that the whole Army suffers from having incapable men to deal with most important duties. There should be only two classes of officers, namely, Staff and Regimental. These are both looked up to; and regimental officers will work hard to obtain the status of a staff officer, but they will not make the effort for the doubtful honour of being called a departmental officer. It is obvious, therefore, that the retention of the objectionable term reacts on the Army at large, by attracting only inferior officers to those billets in which specialists are required.

Another term to which considerable exception is taken—and which would die a natural death if the term "Financial Staff Officers" was introduced—is that of "paymaster." In olden days many paymasters were promoted from the ranks, and so the name has not got a very "classy" sound about it. Add to which, on the Continent, the paymasters are not the social equals of the ordinary officers, as is the case in the English Army. In the German Army, for instance, the paymaster is a superior kind of N.C.O., who keeps the accounts, but is not allowed to handle more than £15. The real paymaster is the colonel, and no money over that sum can be issued unless he is present. It is quite obvious why English officers who travel much on the Continent do not care to be known as paymasters, as it puts them socially into such an unpleasant position.

In the corresponding branch in India the term "paymaster" has been practically dropped, and the consequence is that a much higher standard of efficiency exists, and much stiffer entrance examinations are passed. The advantage of having an abler class of officers is that there is no necessity for having so many of them, and so in the long run not only is the work done better, but the cost to the public service is very much less, and yet no single individual is badly paid. The costliness of our English plan is not the only defect, for unquestionably the work is not done so well as it might be if only we had better men and a better system.

Apart, however, from these considerations the term "paymaster" has long ceased to be one that accurately describes the duties of financial officers, as the paymaster does not pay the men. This work is done by the captains of companies; and the adjutant of each regiment receives extra pay for doing paymasters' duties. The so-called paymaster is the officer who audits the accounts, and who issues large sums in bulk to the captains. His duties, like those of other staff officers, are confined to that of seeing that other officers act in accordance with regulations; and, therefore, in the strictest sense of the term, he is a financial staff officer, and resents being called by another name which does not accurately describe his duties.

When I first joined the Army Pay Department I had one clerk, and if I received half a dozen letters in a day on an average, it was the outside of my work; and probably the payments for about 800 men did not exceed £28,000 per annum. But when the regimental paymaster was abolished, and the new system was introduced, our sphere of action was considerably enlarged. During the recent war I had at one time to pay about 1,500 officers and 30,000 men of the Colonial forces, scattered all over South Africa, and was in communication with eleven different Colonial Governments. The actual payments amounted to about two millions in twelve months, and the letters and telegrams coming in and going out of the office amounted to 39,000 in the first twelve months. In addition, I had 112 commanding officers to whom I had to give most minute instructions, besides about 20 paymasters. Yet, in spite of all this addition of work—which I venture to think was quite equal to that of any staff officer—I was still called by the old name of "paymaster." I felt much honoured by being called upon to assume so responsible a position; but, still, it is hardly likely that young officers will be attracted to a branch of the Service which makes such a demand on the individual, without giving any *quid pro quo* in the way of recognition, when it is so easy, by going into some staff billet, to obtain much more "kudos" without anything like as much work or responsibility.

The probabilities are that very few staff officers engaged in office work had anything like the responsibility that was thrown on to me, or that their work approximated mine in importance. I merely mention my own case; but what was true of me was equally true of many others in the Army Pay Department. The truth is that the old conditions have passed away, when the paymaster's office was an easy "loaf"; and yet the authorities have not recognised by any new designation the new condition of work.

If it is desirable to attract a better class of officer to deal with such difficult and complicated questions as are raised under the new regime, some attractions must be offered. An inferior officer in financial work is often a very costly individual to the public, as a very slight mistake may amount up to a very serious item when dealing with large numbers.

I have seen mistakes made which have cost the country many thousands, and no one will ever be the wiser. On the other hand, I have seen blunders avoided which would have cost as many thousands, but the individual gets no credit. The truth is that when a war breaks out the British public will vote anything in a most indiscriminate manner; but if we want to safeguard public interests, and put a stop to waste, we must have an abler class of military financial officers on the spot.

Our campaigns are frightfully costly; and I venture to think that this extravagance could be considerably reduced if only we had more efficient officers and a better system. The British public may be very generous in time of war, but it hardly strikes one as statesmanlike that we should trade too much on these fits of generosity.

Out of upwards of 10,000 officers of the Army who have passed these very stiff competitive examinations, there are some very able men, quite equal to any civilians in the War Office. Hitherto our financial system has been so defectively administered that the best men have not been attracted. There is absolutely nothing to offer an ambitious man who is conscious of ability. The present Lord Cromer—who, when I first met him, was simply Major Baring, of the Royal Artillery—first of all made his name in India as a financial man, before he was selected for Egypt. It is not creditable to our past system that we had such a man, but made no use of those qualities in which he most excelled, and in which we were most deficient.

I once called the attention of a War Office civilian clerk to this fact, and he laughed at the idea of such a man not aspiring higher than being the head of the financial system of the British Army. But as his lordship could not have foreseen the Egyptian War—which led to his advancement to the peerage—I have no doubt that he would have at one time gladly taken any billet that would have held out the prospect of being a K.C.B. Yet no such post was in view, and we made no use of his brains, and left it to India and to Egypt to reap the benefit of abilities for which we were unable to find scope.

Next to the post of Commander-in-Chief it is difficult to imagine one of greater importance than to hold the purse-strings of the British Army; for the best military financial officer is he who can give to his country the greatest number of fighting men for the amount of money that the public are prepared to spend on the Army. With such a master-mind at work as that of Lord Cromer, I venture to think that many of the blunders of the past would have been avoided, and the country would be now getting better value for its money. There are plenty of little leakages throughout our large Empire through which a large amount of money may slip which would be better spent in adding on to the fighting strength of the country. Any system, therefore, that would keep out such a giant intellect stands self-condemned.

In order to attract able military men of the type of Lord Cromer into the financial service, I submit that a little more dignity should be conferred on this branch of the Service, and that it should be made a more important one. Not only should it be granted a head selected from its own members, such as the Army Ordnance and the medical branches have, but that head should have the distinction of K.C.B., so as to add dignity, and to attract able young officers and give them something to look forward to.

At the present moment there is not a single officer in the Army Pay Department now serving who has got this distinction, and there is only one on the retired list, and this though the Department has now been in existence for over twenty years. On reference to the Army List it will be seen that the Medical Department and Army Service Corps have many who have received this distinction. Dignities of this kind are much looked up to by that class of officers who supply candidates for the Army Pay Department. They cost the country nothing, but

have an enormous influence in raising the tone of the different branches of the Service that receive them. At the beginning of the last century the Engineers were a looked-down-upon branch of the Service, and they held a very inferior and false position. Probably they do not cost the country as much per head now as they used to do in those days; but the authorities who adopted the enlightened policy of raising their tone have reaped a rich reward in having attracted a body of officers that have produced a Lord Napier, a Lord Kitchener, a Sir William Nicholson, a Sir Bindon Blood, a Sir Richard Harrison, a General Gordon, and many others of whom the whole Army is justly proud.

I am sanguine enough to look forward to the time when a more statesmanlike view will be taken of all the branches of the Army which contribute so much to the efficiency of the Service and the comfort and well-being of the officers and men. There are but three real fighting branches—artillery, cavalry, and infantry—and everything should be done to contribute to their efficiency. But this cannot be so unless we attract the very best men the country can give, to feed them, to pay them, to supply them with quarters, to build bridges and fortifications for them, and to supply them with ammunition and clothing. How much suffering has been caused, how many deaths have taken place, how much waste of money has there been, how many disasters have occurred, simply because the officers who are specialists in these branches have been badly treated in the past, and the best men have not been attracted. An army is like a chain, and is no stronger than its weakest link. Let one branch break down, or be inefficiently manned with inferior men, and who can foresee the far-reaching results?

I plead for more statesmanship in my own branch; but what is true for that is equally true for all the others.

Let the very best military financial officer be selected for the post of Auditor-General, and thus one prize will, at all events, be held out to all officers of ability who have an aptitude for finance. He should have under him at the War Office a staff of 12 military financial officers, varying in rank. Outside the War Office he should have one full colonel on the staff of each G.O.C. a District. Say, about 15 such at home, and 12 abroad. The smaller commands need not have them. Each of these full colonels should be a financial staff officer to the G.O.C., and should not only advise him, but should, in his name, audit all the pay lists belonging to the District; and this audit should be final. The Auditor-General at the War Office would then only be required to do a small test audit to see that these financial staff officers were carrying out the instructions of the Financial Secretary.

Each of these financial staff officers should act exactly as he would do on a campaign, if his G.O.C. was the General Commanding operations, so that there would be no break in the continuity of system, if actual war broke out. All trifling questions should be dealt with locally, and only very important questions of principles submitted to the War Office. The over-centralisation of our financial machine has done much to deprive individuals of the power of initiative.

Each financial staff officer of a District would have a staff under him of lieutenant-colonels, majors, and captains, varying in number according to the size of the District. These would all be collected at the

headquarters of each District, as at the base in a campaign. The chief financial staff officer would, of course, be relieved of all cash duties—which would be performed by junior officers—and he would devote himself to auditing and to seeing that other officers did their work properly, to advising the G.O.C. on all financial questions, and to recommending only the best officers for promotion, so that by degrees none but good men could rise to the higher posts, and we should thus gradually obtain a very select body of capable officers to undertake the financial duties of our Army.

(To be continued.)

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THE CONDITIONS GOVERNING THE EFFICIENCY OF ARMIES OF THE PRESENT DAY.

By General of Artillery ROTHE.

Translated, by permission, from the "Deutsche Revue," November, 1902.

ONE result of the advanced state of civilisation of the present day is that all nations become more or less fellow-sufferers by any disturbance of the peace. So the higher the aspirations of a nation, the more valuable its possessions, the more noble its aims, and the more full of promise its future, all the more imperative does it become its duty as it is also to its interest to intervene for the maintenance of peace.

The peaceful competition of nations and the due fulfilment of the duties cast upon them by civilisation can only be assured by political power; which, in its turn, can only be upheld by adequate military strength. And the sword, to be effective, must be able to make itself felt and ensure respect, even across the seas, and be sharp enough to enforce its will to prevent peace being disturbed. It is more difficult in these days of high civilisation than formerly to make good the ravages of war, and the victor has to suffer as well as the vanquished; for while a nation in arms is employing its whole strength to ensure victory, it is threatened by the danger that its industries will be languishing, its trade suffering and passing into the hands of rivals, its civilising mission at a standstill, and, even in the event of a brilliant victory, a long period of depression will follow in all departments of its life.

It becomes, therefore, more than ever the duty of a belligerent Power, war once kindled, to bring it to an end in the shortest possible time. For it is only by a short war that the unchaining and intervention of dangerous human passions can be guarded against. The more powerful the sword and the more skilfully it is wielded, the more quickly will its work be completed, the less will be the sacrifice in blood and property on both sides, and the more easy to be borne the after effects of the war.

It is, therefore, a natural and immutable demand of our time that, as the commercial competition between nations becomes keener, there should also be a corresponding growth in their land and sea forces. A strong military Power can in all sincerity be considered as a guardian of the peace and promoter of the general well-being. The military strength of a nation is to-day in a certain measure a test of the value which it puts on its possessions, interests, and duties. But it is also true that a military Power is only strong if its moral development keeps equal pace with its growth. This is no new requirement, but it has assumed a greater importance with the destructive effect of modern

weapons and the growth of Armies, while at the same time it has become more difficult to ensure it.

* * * *

The constantly increasing advance which technical knowledge has made in the present day has brought firearms to a high measure of perfection, as they can now be used with greater rapidity, greater precision, and at far longer ranges than formerly. The losses in future battles will not probably be heavier than in the past, for troops will only stand firm up to a certain point, and, their nerve once shaken, there will come a crisis; for the losses will be incurred in a much shorter time, and, as battle-fields will no longer be enveloped in clouds of smoke, they will occur in full view of the combatants, and this will naturally tend to have a demoralising effect upon them.

Detailed instructions for the training in the use of arms can be given, but this training demands more care and time if the full advantage is to be derived from modern weapons. It is more difficult than formerly to decide on the proper formations for battle tactics; for it will be necessary to advance on the enemy if decisive results are to be obtained; but as the attack in face of modern weapons must entail losses, it is impossible to lay down rules applicable to all cases. The instructions must allow greater latitude in the choice of methods than formerly, while greater demands will be made both on the leaders of all ranks and the soldiers. Officers and non-commissioned officers are always more exposed to fire than the men in carrying out their duties, hence they suffer a higher proportion of casualties, which have to be filled up from younger and presumably therefore less qualified sources. Moreover, conveying reports and orders, especially between the advanced fire-zones, will be much more difficult under a destructive fire than formerly. This all tends to make a picture of the battle-field less distinct than used to be the case, since the firing lines can no longer advance under cover of the smoke, and the lying down and the crawling forward of the fighting ranks has become much more important.

The commander, therefore, must possess greater foresight and a higher measure of the faculty of discrimination, both in his orders to his subordinates and the greater measure of independence he concedes them. These in their turn must be trained in a higher degree to think and act for themselves, must possess more strength of will, be able to assume a higher responsibility, and yet with their greater independence must understand the limits imposed upon them in carrying out the duty assigned to them. If the restraints of rigorous discipline are wanting, greater independence can only lead to greater losses and disorganisation.

A quick eye to notice everything passing before him, acumen to detect and utilise the weaknesses of the enemy, and the advantages which the nature of the country may offer to himself, influence over his subordinates—as also upon those acting in conjunction with him in the battle—these are the virtues which from time immemorial have made valuable soldiers; and they are the qualities which to-day must be developed in our junior and youngest officers and among the men if we are to remain victors in battle.

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The more wheels a piece of mechanism has, the greater are the chances of friction, which will prevent its working smoothly. The

larger the Army, the more numerous are its component parts, and there must be all the greater care taken to prevent any opportunities for misunderstandings or mishaps occurring.

The higher branches of Armies have increased both in number and strength, and especially the Artillery; for the corps, in spite of the destructive effect of modern weapons, have to be made capable of carrying out their duties independently. At the same time the supply columns and trains are larger in proportion to the fighting troops than formerly, and consequently the dead weight continually increases which is attached to them; the different kinds of quick-firing weapons require more ammunition, and the larger Armies, as they will no longer be able to subsist as much as they used to do upon the theatre of war, must be accompanied by greater quantities of supplies.

The employment of larger masses of men limits the dispersal over the country of single units, as the demands on the line of communications to be used must be kept as low as possible, nor will a general care to run the risk of finding himself weak at a decisive moment; the column of march will therefore be longer, the finding of shelter, as well as the providing of all that the Army requires, becomes more difficult, while the physical strain on the troops is also increased.

Long columns and restricted freedom of lateral movement (*Arm-freiheit*) make changes in the direction of masses once in motion more difficult, and do not as a rule admit of mistakes being repaired with impunity. A rapid change of front of an Army under these circumstances while keeping in touch with the supplies will always be difficult. If unwieldiness is to be reduced to a minimum, a high measure of foresight and skill on the part of the commanders is necessary, and their instructions to their subordinates must be quite clear. Foresight is a safeguard against being surprised, and makes it possible, on the other hand, to surprise the enemy. A surprise is a source of great danger when masses of men are concerned. Foresight must be supported by thorough information about the enemy and his intentions. The larger the bodies of men to be moved, the earlier must the determination to do so be arrived at, and the necessary orders communicated, to ensure the movement being carried out in time. It is therefore necessary to look well ahead from the first. But the best information and most practical orders are of no value if they do not reach the spot where they are required, so that the first can be used and the latter carried out. It is therefore of the greatest importance to have a rapid and trustworthy means of transmitting information and orders over wide distances from the point of the furthest advance to headquarters, between neighbouring bodies and widely separated divisions of the Army. The larger the Armies which stand opposed to each other, the more numerous the units whose manœuvring has to be taken into consideration, the more difficult is a just estimate of the situation, and the more momentous the decision. Should the weapon fail, or should it be badly handled, then the larger the forces the worse the defeat will be. Naturally both sides will be well aware of this, so the struggle for the most complete victory will be all the more severe than formerly. Should either commander not feel equal to the task imposed upon him, all the greater will be the temptation to ward off as long as possible the decisive blow by drawing back, and in this way damaging the enemy, whose chief concern will be to end the war as speedily as possible.

Each opponent will endeavour to secure the superiority in numbers, but victory can only be hoped for if on the side of the superior numbers are also to be found higher moral and physical qualities in the troops and greater skill on the part of the leaders.

The weapon will not, however, fail, if its organisation, armament, and equipment of every kind, and its training, particularly that of its officers, have been brought up to the standard demanded by modern war.

The importance of the strictest discipline, as well as greater independence for modern fighting, makes it essential that the leaders of every rank should have learnt to thoroughly understand each other during peace and have an intimate knowledge of their troops. It will therefore be of the utmost value that the units brought into the field, whether large or small, should have been already trained to act together, and as far as the creation of new ones is concerned, that the large proportion of officers and non-commissioned officers required for these should be kept ready in peace-time as supernumeraries.

But in view of the increased complexity of modern armaments and the purpose to which they are applied, and of the large number of Reservists who, in case of mobilisation, have to be recalled from their work in order to bring the Army up to a war footing, a most careful preparation in advance is requisite, even when the organisation of the peace Army approximates as nearly as possible to that of the Army for the field.

Since the duties and responsibilities of all ranks have become greater, an increased measure of professional training is demanded. A thorough knowledge of one's duty gives confidence and self-dependence, and enables the possessor to influence others. And such knowledge must especially be required of the leaders of all ranks, who are the soul of the Army. The higher the soldierly knowledge and skill to be found in it, the greater generally is the value of the Army. Example counts for much, and a highly capable body of officers is a guarantee for good troops.

The shortness of the period of service necessitates its being utilised to the fullest extent; but the bow must not be strained, hence, as far as possible, all work must be excluded which is of no military value, while the most approved means of instruction, suitable ranges, and extensive exercise grounds, must be provided. Above everything, whether exercises are on a small or large scale, they must be carried out as far as possible under what would be actual service conditions, so that the picture of warlike actuality, which impresses itself on both men and their leaders, may differ as little as possible from the reality, so that when the time comes they may not be taken by surprise by the unexpected, and their steadiness jeopardised. The greater mental and bodily strain which such a training entails must be met by increased care for the welfare of the troops, by better quarters, and better nourishment. The larger the masses of men who are to be led the more important is it that manœuvres should be undertaken by large units brought as far as possible up to war strength. They bring, at least, in some measure before the eye, the difficulties of harmonising movement, time and space, and afford practical teaching not only for the higher commanders, but also for their mouthpieces, the officers of the general staff. It is only such manœuvres which make it possible to practise, complete, and adopt a rapid and trustworthy method of communicating intelligence and orders which will stand the test of war.

Hand in hand with the practical professional training, and inseparable from it, must proceed the inculcation of the strictest discipline, and at the same time modest self-dependence, which, with an increase in volition, are pressingly demanded in the fighting of to-day. Everybody must be convinced that the most severe discipline is as necessary for the advantage and good of the individual as for the whole. The abler the leaders, the more will they avail themselves of every opportunity to enforce this requirement.

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Practical knowledge cannot dispense with scientific; and the higher the standard of the general education of a nation—and with it that of the bulk of the Army—the greater becomes the necessity that the leaders should combine the most perfect practical training with a high standard of military and general knowledge. And as long as this education keeps apart from mere book-learning, as long as it is based on practical experience, and confers on its possessor greater freedom and confidence in the execution of his duty, it tends directly to the improvement of his professional education.

Military history takes a high place among the subjects to be mastered to-day by officers. The conduct of war and leadership in battle are naturally subject to continual modification; but the changes brought about by modern weapons and the growth of armies are greater and more important than formerly; and we have no example as yet which will serve to guide us. All the more important and more difficult, therefore, is it to obtain a just estimate of their influence, as also of the demands which they will impose upon the military machine and its proper use in the future. Only a mind carefully trained in military lore will be able to adapt itself to these new conditions.

The men who have been in positions to become acquainted with war on a large scale, and who have acquired a really valuable and varied experience, are becoming fewer and fewer: consequently, therefore, the study of military history has increased in importance, in order to give to the rising generation a true picture of war and its requirements. If it is constantly kept in view that in war one has to reckon with the unexpected, with accidents and surprises of every kind, and that, as a rule, the time for observation, consideration, making up one's mind, and action, will be very short, and that all this has often to be done at a critical moment, when both mind and body are exhausted, and yet nevertheless the ways and means, and also the iron strength of will, must be found which will lead to the goal, we shall not be baffled by the difference which exists between the exemplification of knowledge and capacity founded upon war and peace, and we shall recognise that simplicity, both in the form of the military machine as well as in its use, is the most important factor. The longer peace lasts, the more readily will this be forgotten. If then, changes recognised as necessary are taken in hand when the opportunity serves, we shall be spared disappointments in war and not be compelled to seek remedies after dearly-bought experiences.

That besides military history, all study increasing the professional knowledge of officers, particularly that relating to the leading and employment of troops and the proper study of war in its different branches, has assumed increased importance, needs no proof. In addition, such studies deserve greater consideration, which develop judgment of men and matters, and increase a man's self-reliance and influence upon others. In this connection a knowledge of other

nations and countries must be considered, including as far as possible a thorough knowledge of foreign languages. Familiarity with a country and its people—of what may probably be a theatre of war, as well as a knowledge of the language—was in former days an advantage, but to-day such knowledge has much increased in importance; for it will lessen friction, permit of the duties in the enemy's country being simplified and more quickly and reliably carried out, besides tending to economy in time and labour—which are of the more importance the larger the size of the armies.

A personal knowledge, therefore, of a country and its people is particularly useful. Residence in a foreign country generally develops self-reliance, sharpens the gift of observation, enlarges the mental horizon, matures the power of discernment more rapidly, and makes a man more unprejudiced in dealing with what is new and strange. Knowledge of human nature is more readily acquired under these conditions than in the narrow circle of home-life with its many limitations. Thus it will be of special service to those officers who will be employed in high commands and in the more important posts, if they were given the opportunity to acquire this knowledge through travel, especially in civilised countries; and the ample means of communication in these days makes such travelling easy.

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Technical science has from time immemorial played an important part in the service of the Army; but, however perfect the war material with which it supplies us, there remains always the more difficult art of turning this material to the best practical use in the field; hence technical science and education must on no account be allowed to supersede the tactical. There is nothing inconsistent, however in conceding a somewhat wider field nowadays to these matters than was formerly the case. The destructive effect of modern weapons, and the size of modern Armies, necessitate the calling in to our assistance of technical science wherever it can be utilised, but it is necessary to adapt it to the requirements of practical service in the field, and these are so unique from many points of view that, even when based on the general progress of mechanical industry, there will nevertheless always remain special branches applicable for war purposes in which further developments must take place. Simplicity in construction, arrangement and method of use, capacity to resist destroying influences of every kind and to stand reckless handling, are important requirements which must be complied with.

The numbers of the technical troops have, on the whole, kept pace with the growth of the Army, but not altogether in proportion to the increased number of technical problems which need solution in war to-day. Thus, all arms without exception must take upon themselves the execution of the many different forms of technical work, and as long as certain fixed limits are not overstepped, this can be done without more important interests suffering. The more the military forces of great States are drawn from the same classes, the more does it behove them to outvie the others in arming themselves with the latest improvements, and the better the weapons, the greater is the technical knowledge necessary to develop the full advantages these confer.

If successful operations are to be undertaken which require the sudden movement of a huge army of to-day, without regard to the

difficulties of the country and the communications, technical science must help in smoothing the road, in creating as rapidly as possible the means of communication freed from all obstacles, and also in destroying the same means of communication, should it be necessary to check the advance of the enemy.

New weapons lead continually to new means of protection, and these again to further improved arms, so that the proportion of one to the other remains in general much about the same. Permanent fortifications brought up to date can always do good service, if their use is rightly understood. Their value cannot be assessed on general principles; it depends on many factors, which may be changed by the military position and are not easily estimated, but in the main their value will depend on the skill of the leaders, on whom will lie the use to which they will be put, as also their attack or defence. The better armaments will, of themselves, give no ground for increasing the present permanent fortifications, the tendency of the present day being rather to restrict them, as they require the multiplication of special weapons and war material of all sorts, besides retaining troops as garrisons, which could be employed elsewhere. But new weapons will continually need adjustment and improvement, and this demands to-day not only more abundant material resources, but also a higher degree of technical knowledge and skill.

The possibility that in a future campaign a battle may be fought more frequently in the neighbourhood of fortified positions prepared beforehand and that, at close quarters at least, the erection of artificial cover will be of value, necessitates consideration in the equipment of modern Armies, and increases the demands on the training of the troops. The rôle which fortifications will play in a campaign cannot, however, be calculated in advance; it will be influenced by the *moral* of the troops and the character of their leading.

The means of communication of our generation afford indispensable technical aids for the carrying on of war. The Army in general can only increase with the development of the means of communication. First in importance is the railway system of the country, which must be adapted to the military interests. The rapid mobilisation and assemblage of a modern army, as well as military requirements during the time the war lasts, make such exceptionally heavy demands on both the railway and telegraph services of the country that they can only be met if everything in these departments is in complete order and fully organised for all emergencies, with a staff of experienced higher officials and trustworthy and perfectly trained juniors, and the military preparation for using them placed in the most skilful hands. The larger the numbers which are to be conveyed, all the more are disturbances in the traffic felt. Immediate removal of the causes of interruptions is a pressing necessity, if serious results are not to accrue. Therefore a body of troops, specially and fully trained for the work, and provided with the most serviceable material for the repair of bridges, etc., must be held in readiness in sufficient strength to carry out this duty.

The question of forwarding supplies securely for the Army, as well as striking out everything that is superfluous, becomes a more difficult and more important matter the larger the Army is. It is, therefore, a matter of great urgency to make it possible to resume traffic on destroyed railways in occupied hostile territory as rapidly as possible. Failing proper railways on a sufficiently extensive scale to meet the

needs, or should their repair require too long a time, the rapid construction of field railways becomes necessary. But both are only possible if a trained body of men, with no lack of material, is available. Moreover, for the completion of field railways the technical branch will have to provide mechanical means of transport, useful for war purposes, in order to meet the requirements of the mass of transport on the military lines of route.

A particularly important problem which calls for solution by military technical science at the present time is the provision for the use of the leaders of the Army, both superiors and subordinates, of a rapid and trustworthy method of conveying information and orders. Every system at present in use has its natural weak spots, while there is not one which fulfils all requirements. Wire telegraphy is liable to be affected by electrical disturbances, and, owing to the difficulty of protection in an enemy's country, is especially exposed to interruption; at the same time, getting it into working order often takes more time than is available. Optical telegraphy is easier to protect, its apparatus can be rapidly made available for use, and is suited for long distance signalling either by day or night; for secondary military purposes, at least during an action, where a few words or some signal previously agreed upon are sufficient, this method is of great value; but fog, rain, or snow are its enemies. Wireless telegraphy, uninfluenced by weather as it is, although still only in its infancy, must be considered for use in the field, but here there are difficulties also. Balloons must be favoured by chance and the direction of the wind, while captive ones require a clear atmosphere with comparative calm. Carrier pigeons can only be used in very rare circumstances. The fast automobile can be used for conveying information and verbal orders long distances, provided there are good roads. It comes to this: that all means of communication, which technical science provides, must be at command, with thoroughly trained staffs, and a sufficient supply, so that in any case one, and if possible several, of the different methods may be available. The difficulty will be in efficient training and in keeping them all in readiness for service.

A highly developed system of railway communication in their own country, with a body of railway troops carefully trained to the work, with home manufactories capably managed, are the important preliminary conditions for the employment of large armies. Mechanical methods of transport maintain the supplies required for food and warlike necessities and make for greater freedom in the operations; while a proper method of communicating information helps to compensate for the difficulties created by the massing of men, makes it possible to work as widely-separated bodies of troops, saves waste of power, and even lessens losses.

The military service of to-day thus accepts unreservedly the claims of technical science, but that the latter should be used to the best advantage demands not only a liberal expenditure of money, but also calls for higher professional training of the soldiers, and above all of the officers. With the progress of technical knowledge the conduct of warlike operations will undergo further development, but technical science has its limitations, which require to be carefully watched, otherwise the danger exists that, with the increased complexity of material, the necessary simplicity of all action in face of the enemy may be lost sight of. It is therefore necessary that the numerous improvements

which the highly-developed technical science of our time puts at the disposal of the Army should be subjected to the most severe tests under service conditions before being adopted for use in the field.

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The active period of service is almost universally too short for imparting all the qualities, tending to make up the strength of an army, which are demanded to-day. But as a preliminary to its work and hand in hand with it, go the education of the people and the school of life, which are shaped and influenced by the State. For the State has a paramount interest not only in demanding those qualities that are of use to the defenders of the Fatherland, but in ensuring them. For the majority of the Army in case of mobilisation is drawn from the Reserves, and in almost all cases in almost all countries the men are transferred from the regular and narrow restricted life of the factory, to the constantly changing, strenuous work of war, which claims the men's whole energies.

Bodily strength, mental and moral soundness, strong nerves, the best possible education, skill in his civil calling, the habit of working, are qualities which one can only wish should be possessed by every-one liable for service on his entrance into the Army, and which the men in the Reserve should strive to retain. These qualities are also the soil which fosters strength of will, the developing and strengthening of which is one of the most important problems of military education. Only healthy bodies and minds can develop the extraordinary powers called for at times of great stress, and withstand the greater mental strain induced by the fighting of the present day. Good school education wakens the understanding, opens the eyes, calls out the powers of observation, and makes for trustworthiness and self-dependence in thought and judgment. And the more perfect the man's knowledge, and the more practical experience he has had in his civil calling, all the more valuable will he be when he is called upon to use his knowledge and skill under the more difficult conditions of war; and it is only by an earnest, continuous military education, under the inculcation of the most stringent discipline, that he can adapt himself fully to meet these conditions.

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Only from a peace army, which in organisation, equipment, and training comes up fully to the demands of modern war can well-trained men be drawn for high command who will be equal to the more difficult duty imposed upon them, and understand how to use with success the implement to their hand. For it is the men of ripe and valuable practical experience, who consider well the feasibility and the consequences of what they propose to do, and who are accustomed to observe, and form their judgments from a higher standpoint, who are able to act with self-reliance, and show themselves leaders in the highest sense of the word. Such men's capacity for making up their minds will not detract from their higher discretion, while their strength of will, fearless of the friction their resolves encounter, will guarantee the attainment of the object of their desire.

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The moral duty of all to make and to keep themselves fit, in the highest sense of the word, to fight for his Fatherland may indeed deprive a nation of a certain amount of active power when engaged

in a peaceful competition with others; but on the other hand, no nation which dispenses with an ideal goal can be trained to the duties which its education lays upon it, and although it may be able to amass wealth, it will be scarcely strong enough to protect itself in times of danger. There is a very lively feeling that where a high standard of true culture is reached, the nation must be sound both morally and physically. Such a nation will also show itself capable of solving the problems which fall to it in war outside its scene of action; since a great war affects the whole nation and the country, whether the enemy is able to penetrate into it or not. For not only have arrangements to be made for a continual flow of reinforcements, to meet the drain of war, and of supplies of all kinds, but—so far as is attainable—for the carrying on of the peaceful struggle in the regions of trade and industry. Not only must the sources of industry be preserved from extinction, but they must flow more freely if possible, in order that the means may be available for sustaining a prolonged war, and successfully emerging from it without lasting damage to the general well-being of the country. It is self-evident that this becomes a matter of greater difficulty, the larger the number of the sons of the Fatherland who are re-called unexpectedly to the colours, the higher the civilisation of the country, and the more numerous the threads which war threatens to snap, and which must be taken up by substitutes, since they may not be permanently broken. This interchange between soldiers and civilians is only possible where a nation is morally and physically sound, and thoroughly skilled in every department of life, and where there is a high standard of capacity for work.

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The size of an army is limited by the possibility of organising, arming, equipping, training, and providing it with a sufficient number of capable leaders, so that it may be trusted to meet the demands which a war to-day will make upon it. This limit differs for different nations; the available source from which the *personnel* can be drawn is among other features of importance.

The Commander-in-Chief is the inspiring spirit of the Army. The larger it is and the shorter the period of service, the more will it bear the distinguishing characteristics of the nation. Both during the peace training and on active service every means must be adopted to advance the good and weed out the bad. Naturally, however, the methods to be adopted for bringing an Army up to the highest standard must vary. What is good in other Armies cannot be adopted at short notice, a grafting of foreign shoots upon the fighting force of a country is not easily effected. The power to put forth new branches must be derived, as in the case of an oak, always from its own roots.

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Thus it will be seen that the conditions on which the efficiency of a modern Army ultimately depend are both complex and difficult to analyse; but without their due comprehension the successful prosecution of a war is impossible. War is the final arbiter between nations, and it alone decides whether the conditions for survival are present in the race, and have been duly and intelligently appreciated. It is not only the touchstone of the Army but of the nation itself.

If the Army is to deserve the nation's confidence, then it is necessary nowadays to spend money freely, and to make careful provision, not only for military but for national education. This throws upon the whole community both individual duties and also certain restrictions, but on the other hand it promises a thoroughly capable nation and an assured future.

What is won in the schools of the Army and Navy in bodily strength, in the steeling of the will and character and in the manly virtues of every kind remains with the people; and *the soldier or sailor leaving the Service takes all those qualities with him as a valuable endowment for the battle of life.* A strong war-force compensates for all that is expended on it; it is only expensive when it is insufficient and its moral worth has not been maintained at a high standard. For if it is no longer feared, if it no longer affords the necessary support to the political power of the State, *it may be considered to have suffered defeat already in peace*, and this is worth more to the adversary than a victory won at the cost of much bloodshed. And when time or history speaks of a permanent decline of a nation's military strength, it will generally be found that this coincides with the decline of the nation itself.

CAMPAIGNS AGAINST INDIA FROM THE WEST AND THROUGH AFGHÁNISTÁN.

Translated and condensed from the Russian of Major-General L. N. Soboleff, by Lieut.-Colonel W. E. GOWAN, Retired List, Bengal.

IN the year 1877, Major David, of the Bombay Army, published a pamphlet with the title "Is a Russian Invasion of India feasible?"¹ and eight years later, *i.e.*, in the year 1885, Major-General L. N. Soboleff, of the Russian General Staff, wrote at length² on the same subject in his work entitled "A Page out of the History of the Eastern Question. The Anglo-Afghán Struggle (Sketch of the War of 1878-80)."

General Soboleff reviewed the following historical campaigns against India, undertaken from the west and through Afghánistán, and, in doing this, he justly observed that a perusal of the account of accomplished facts must necessarily do much to supply an answer to the question propounded by Major David and by other military experts (British and foreign) from time to time.

Brief review of the campaigns undertaken against India from the west, and through Afghánistán:—

- I.—Campaign of Semiramis, a Queen of Assyria.
- II.—Campaign of Sesostriis, the Egyptian.
- III.—Campaign of Cyrus, the Persian.
- IV.—Campaign of Darius, the Persian.
- V.—Campaign of Alexander the Great (Greek).
- VI.—Campaign of Antiochus III. (the Great) (Greek).
- VII.—Campaign of Demetrius (Greco-Bactrian).
- VIII.—Campaign of Eucratides (Greco-Bactrian).
- IX.—Campaign of Arshák II. (the Great) (Parthian).
- X.—Campaigns of the Scythians and of the Saks.
- XI.—Campaign of Naushirwán (Emperor of Persia).
- XII.—Campaign of Uguz-Khán (Uigur-Mongol).
- XIII.—Campaign of Sabaktagin (Ghaznivide).
- XIV.—Campaigns of Máhmud of Ghazni.
- XV.—Campaign of Muhammad of Ghuri.
- XVI.—Campaign of Chingiz-Khán (Mongol).
- XVII.—Campaigns against India undertaken by the Mongols after the death of Chingiz-Khán.
- XVIII.—Campaign of Timur-Beg or Timur-Lang (Tamerlane).
- XIX.—Campaign of Abu-Bikr-Mirza.
- XX.—Campaign of Bábar.
- XXI.—Campaign of Nádir Sháh, the Persian.

¹ London : Edward Stanford, 55, Charing Cross, S.W. 1887.—*Author.*

² His paper covered 113 pages in the work named. He afterwards amplified and republished his treatise in fifteen numbers of the *Voïennyi Sbornik* between 1885 and 1888.—W.E.G.

I.—CAMPAIGN OF SEMIRAMIS.

This campaign took place in the twelfth century B.C. Previous to his ascending the throne of Assyria, Ninus, the husband of Semiramis, had possessed himself of Bactriana (the modern Afghán-Turkistán). Semiramis marched with a numerous army on India (passing through what is now Afghánistán) and defeated the Indian Army on the banks of the Indus. The Indians decided, however, on enticing her into the heart of the country, and this they succeeded in doing. The army of the Assyrian Queen was then defeated, and she herself, having been wounded in the fight, and having lost two-thirds of her forces, returned to her own capital with only 20 men" (Collin de Bar, "*Histoire de l'Inde, ancienne et moderne*," Paris, 1814).

Greek historians relate that Semiramis collected a countless host for the conquest of India, but by what route the invasion was made is not told. It is, however, an important historical fact that the general plan of Semiramis' attempted conquest of India took the shape of the previous subjugation of Bactriana, or the modern Bákh. The historian Stezias describes the preparations made by Semiramis for the invasion of India as surpassing all belief. Diodorus,¹ too, speaks of these preparations in the same sense. Semiramis, having taken her forces through the country now known as Afghánistán, reached the banks of the Indus, where she overthrew the numerous host, and a large number of elephants of her adversary Strabobitus, the sovereign of India. Strabobitus hereupon retired into the interior of his country, when Semiramis, flushed with victory, followed after him and then came upon another powerful army. A bloody engagement ensued, in which Semiramis herself was wounded; and, having lost two-thirds of her forces, she was compelled to withdraw across the Indus.

Thus disastrously terminated the first known invasion of India.

II.—CAMPAIGN OF SESOSTRIS.

This Egyptian *Pharaoh*,² according to the testimony of some historians, invaded India, crossed the Ganges, and overran the entire country up to the shores of the Bay of Bengal, or, as Diodorus expresses it, "he marched as far as the Ganges, and, having traversed the whole of India, reached the Great Ocean."

III.—CAMPAIGN OF CYRUS.³

Until the conquest of Babylon by Cyrus of Persia (538 B.C.), historians make hardly any mention of India. Cyrus, who was the

¹ "Diodorus of Argyrium, in Sicily, and therefore called *Siculus*, the celebrated historian."—*Blackie's Popular Encyclopædia*.—W.E.G.

² The title of the holder of the kingly office, and *not* that of the king himself.—W.E.G.

³ "After his successes over the Bactrians and the Sacæ, Cyrus subdued, in rapid succession, the peoples of Hyrcania, Parthia, Chorasmia, Sogdiana, Aria (Herat), Drangiana, Arachosia, Sathagydia and Gandaria. Traces of his presence have been found on the Helmand in Seistán, to the north of Kábul, and even to the north of the Jaxartes (the Sir-Daria of our own times). Khiva, Bokhára and Khokand yielded to the terror of his arms; and for fourteen years Cyrus was constantly to be found at the head of his troops, rendering himself master of the vast region that lies between the Caspian and the Indus."—*Some Old World Eastern Conquerors*. By James Hutton.—W.E.G.

founder of the Persian monarchy, set out with a splendidly organised army for the conquest of India, but his campaign was disastrous, for he returned with only seven men, and yet we know positively that Cyrus advanced the boundaries of the Persian monarchy as far as the banks of the Indus.

IV.—CAMPAIGN OF DARIUS.¹

Darius I., son of Hystaspes, and kinsman of Cyrus, ascended the throne of Persia towards the close of the sixth century B.C., and he strengthened the Persian frontier along the Indus. He also annexed to his monarchy several of the north-western provinces of India, making of these a 20th Satrapy. Wishing to know at what point the Indus flowed into the ocean, he despatched a fleet under Silaxes to make this discovery. After taking some two and a half years to reach the ocean, Silaxes brought his fleet again up the river.

V.—CAMPAIGN OF ALEXANDER THE GREAT.

In the year 334 B.C., Alexander the Great, having settled the affairs of Greece and Macedonia, marched with an excellently disciplined and equipped army, of a strength of 30,000 infantry and 5,000 cavalry, into Persia. In the same year he defeated the Persians at the river Granicus, and in the following year in the Straits of Issus, and in the year 331 B.C. he inflicted a decisive blow on his rival Darius, and caused him to take refuge in Bactria, the modern Bálkh, where he was killed.

Subsequently Alexander himself directed his attention to this province (Bactria), to which he took with him only his light troops. He, however, largely availed himself of the offers made to him on all sides of alliance, and in this respect he displayed the wisdom of an experienced diplomatist. This circumstance does much to explain how it was that Alexander, who really had but a very small force of Greeks, conducted in such a short time several remarkable campaigns and effected such vast conquests.

The great conqueror, in his advance through the country now called Afghánistán, went through Kandahar and Ghazni into the Logar and Pighmán districts of the Kábul plain. Having made the passage of the Hindu-Kush² in a period of from 15 to 17 days, he reached the town of Indar-Ab.³

Having now conquered Central Asia, from Farghána to the Caspian Sea, Alexander, in the year 327 B.C., undertook his famous campaign against India. On this occasion he passed from north to south of the Hindu-Kush by a shorter route, which took him only 10 days. He then came out on the Kábul river, at a point below the

¹ "Darius's first expedition was directed against the Punjáb, which he easily reduced. The Indus river he thoroughly explored from Attock to the sea."—*Some Old World Eastern Conquerors*. By James Hutton.—W.E.G.

² The part of the Hindu-Kush range which the Macedonians crossed was at that time forestless, but there grazed over its slopes vast herds of large and small cattle. The flesh of these animals, when seasoned with *silfa* (a plant of local growth), served as the sole food of the campaigners.—*Author*.

³ Alexander crossed by the Parwán pass, which was crossed in the year 1836 A.D. by Messrs. Burnes, Lord and Wood, members of an English Mission.—*Author*.

junction of the rivers Gorbānd and Panj-Shir,¹ and so reached the town of Nika² (the modern village of Behrām), near the town of Jalālābad. He then sent a portion of his army on to Peshawar,³ ordering this column to prepare everything for the passage of the river Indus; the rest of his forces he himself led across the mountains which lie to the north of the Kābul river. He had to cross very rapid rivers and high mountain passes, and at the siege of one town, the ruins of which must lie near to Chigi, to the north of Bajaur, he was wounded, but not dangerously. From Chigi he went to what is now known as the village of Jandaul, in the principality of Bajaur. Having captured Jandaul, the Greeks marched on the town of Dir. Not far from Dir, the mountaineers attacked Alexander's forces, but he obtained a brilliant victory over them, in which he took 40,000 prisoners, and drove off 230,000 head of horned cattle. After this victory, the Macedonian Army passed through Talash into the Sevāda Valley, wherein was the chief stronghold of the Assakani. Here Alexander laid siege to the town of Messāga, the modern Manglaur. This town was defended by a mercenary force composed of natives of India, and these men, for three days, repelled the Macedonian attack, but on the fourth day they had to open peace negotiations. After agreeing to enter the ranks of Alexander's army, they proved traitors, and so were all condemned to death, and Massāga was occupied by the Macedonians. From the Sevāda Valley Alexander turned to the north-east into Buner, crossing the Ailām range by a road leading from Nawagai to Sagaden. From here he subdued the provinces immediately adjacent to the Indus. Subsequently he turned his attention to those mountaineers who had taken up a strong position on Mount Aornos. The Macedonian Army crossed the river Indus in boats, which they built for themselves from timber in the forests skirting the river banks.

We are not acquainted with the real reasons which induced Alexander to pass through Kāfiristān on his way from Bālkh to India, but, of course, in selecting this route he had to cross a mass of mountain ranges, to pass through terrible gorges, and to get over mountain streams and ravines without number, whilst there lay open to him the very practicable route along the Kābul river. However this may be, the circumstance is important in proving that regular troops can make their way from Bālkh to India, not only by way of the Bactrian-Kābul and the Khaibar routes, but also by tracks within the very heart of the Hindu-Kush mountain range. It is very likely that Alexander wished to reach India without encountering races distinguished for their wild and warlike propensities.

From this brief sketch of Alexander's march from Bactria (the modern Afghānistān) to the Indus, we see that the Hindu-Kush does not present special difficulties in the passage of troops across this range, since Alexander crossed it in 10 days, and in the description of the campaigns against India of other conquerors, we shall see that, whilst all the passes of the Hindu-Kush are not equally practicable, none of them are insurmountable by troops. . . Thus Alexander himself passed

¹ See Grigorieff's *Kābulistān and Kāfiristān*.—*Author*.

² From the foot of the Hindu-Kush range Alexander made for Nika, viā the Patchgai Valley and the Korai and Badpash passes.—*Author*.

³ This column went not by the Khaibar route, but along the left bank of the Kābul river from Lalpura to Hastnagar by the so-called Karān route.—*Author*.

through Bajaur, Jandaul, Seváda,¹ and Buner, and his other column followed the Karán route along the left bank of the Kábul river.

VI.—CAMPAIGN OF ANTIOCHUS III. (THE GREAT).

Antiochus III. (the Great), who reigned from 224 to 187 B.C., wishing to restore the size of Alexander's monarchy, which, on the death of Alexander, had been split up amongst the several army leaders, undertook a series of wars, during which he reconquered the Greco-Bactrian kingdom, and then crossed the Hindu-Kush with the object of invading India.

The close connection which has always existed between the Greco-Bactrian kingdom, the valley of the Kábul river, and the valley of the Indus, shows that the Hindu-Kush range has never proved a special barrier, nor does this range even now hinder constant communication between Kábul and Afghán-Turkistán.

VII.—CAMPAIGN OF DEMETRIUS.

Demetrius, who was the son of the Greco-Bactrian king Efidemus, made vast conquests in India, of which Strabo speaks. Justinian, too, makes mention of him as "an Indian sovereign."² He conquered the country along the lower course of the Indus about the year 185 B.C.

VIII.—CAMPAIGN OF EUCRATIDES.

Eucratides ascended the throne about the year 183 or 181 B.C., and reigned after Efidemus. This Greco-Bactrian king, according to Justinian, though much harassed by his neighbours, carried out vast conquests in India, for Strabo also speaks of him as "the lord of a thousand cities of India." (See Book XV., Chapter I., § 3). Eucratides penetrated into India as far as the river Jhelum, and on his return from his Indian campaign, he was killed by his own son.

Eucratides waged war both against Demetrius, the Greco-Bactrian king above-mentioned, and also against Menanda (about 160 B.C.), and, later on, against Anpolodotus, of whom historians make mention as powerful sovereigns of India.

Unfortunately the same historians do not tell us by what passes of the Hindu-Kush Antiochus III. (the Great), Demetrius, and Eucratides crossed, during their campaigns against India, but it is important that we have, at the same time, fresh confirmation of the fact, that the Hindu-Kush was no obstacle to any of these sovereigns, or to the passage of their troops from Bactria into India.

IX.—CAMPAIGN OF ARSHAK II. (THE GREAT).

In the interval between the campaign against India of Antiochus III. (the Great) and of Eucratides, there unexpectedly rose up a Parthian king, named Arshák II. (the Great).³ Regarding his

¹ Swat.—W.E.G.

² See Grigorieff's interesting article headed "The Greco-Bactrian Kingdom," in the *Journal of the Minister of Popular Education*.—Author.

³ Some called him Arsak. He ascended the throne of Parthia about the year 174 B.C.—Author.

campaign against India we do not know very much. Making a rapid movement into Bactriana, he took possession of that kingdom, and then conquered the entire country from Persia to the Sea of Azoff, including also a portion of Scythia. In one of the histories relating to ancient Asia, we read the following:—"Arshák, with an immense army, penetrated into the heart of Persia, conquered many peoples, and invaded India as far as the banks of the Indus (in the year 174 B.C.). He moreover effected all these conquests in a space of only three years. He then set up satrapies in every province of his vast empire, and returned to his own capital, crowned with glory and burdened with rich booty."

With respect to the campaign of Arshák II. (the Great) we note that before he entered upon his invasion of India, he thought it expedient to conquer Bactriana and a portion of Central Asia. He thus followed the example set by Semiramis and by Alexander the Great.

X.—CAMPAIGNS OF THE SCYTHIANS AND OF THE SAKS.¹

These nomads eclipsed even the glory of the Parthians. At the beginning of the second century B.C. the Saks occupied the country now known as Jungaria, and the Scythians dwelt in Tangut. Having repelled, in the year 177 B.C.,² an inroad of the Huns, the Scythians gradually moved towards the south-west, driving the Saks before them, until, subsequently, both these races occupied the banks of the Jaxartes (Sir-Daria). As, however, the Scythians appeared on this river in ever-increasing numbers, the Saks retired towards Sogdiána (or the country which is now known as Russia's Zar-afshan province). About the year 120 B.C. the Scythians crossed the Oxus (Amu-Daria) and occupied Bactria. During the first half of the century preceding the Christian era, the Scythians could place 100,000 men in the field, but they were still divided into five tribes, each of which had its own district. But about this time, however, the ruler of the Oxus (Amu-Daria) district, united the several tribes, and speedily founded a vast Scythian empire.

The Saks then moved still further westward, and made inroads into Khurassán and Southern Afghánistán. Both nomad races, *i.e.*, an intermixture of the two, subsequently invaded India, crossing by the mountain passes dividing that country from Afghánistán. The Scythians crossed by the Hindu-Kush range, the Saks by the Suleimán range, or rather by the Khwája-Amrán chain of that range. In the middle of the first century B.C. a mixture of Saks and Scythians took possession of part of the Paropamisus range and of the provinces south of it. They soon overran the whole of the course of the Indus down to the sea, and the country which they then occupied in time received the name of Scythia. A hundred years after this, *i.e.*, in the time of Ptolemy, the country stretching from the mouths of the Indus

¹ "The Saks or Sace are supposed to have inhabited the Pamir and the country adjacent to the modern cities of Yarkand and Káshgar. They are described as brave soldiers, armed with bows and arrows, battleaxes and daggers. They served either on horseback or on foot; and were probably of Tatar or Turanian origin."—*Some Old World Eastern Conquerors*. By James Hutton.—W.E.G.

² See Grigorieff's *Kábulistán and Káfristán*, pp. 779 et seq.—*Author*.

eastwards up to the Kábul and Sutej rivers, was called Indo-Scythia.¹ It was during this period that the mountainous country, which marks the north-west frontier of what is now British India, was the scene of ceaseless strife. Such, then, is the information regarding the extension of the dominion of the Saks and of the Scythians, which we find in the writings of ancient classic and Chinese historians; and though the history of the conquests of these races in India is greatly altered by other historians, the compilation of a regular chronology of the nomad conquerors of India would take us too far away from our present task. . . These nomad horsemen undoubtedly moved freely across the passes, both of the Hindu-Kush and of the other ranges, to what is now known as Afghánistán. The Scythians, as nomads, had no regular army, so that when they crossed the Hindu-Kush range, they, in all probability, moved not by one or two passes, but by several at a time, for they advanced like any other nomad race, with a wide front, taking with them their families, studs of horses, droves of camels, herds of horned cattle, and flocks of sheep and goats.

XI.—CAMPAIGN OF NAUSHIRWÁN, EMPEROR OF PERSIA.

In the sixth century A.D., there succeeded to the throne of Persia a great politician and army leader, Naushirwán. He reigned from 531 to 579 A.D., and, during that period, he obtained considerable successes over the Roman Empire, until, at last, a portion of Arabia and of Syria, Bactria, the whole of the Oxus basin, a portion of the basin of the Jaxartes (Sir-Daria), including the country now known as the Russian province of Farghána (at one time the Khánate of Khokand), and the whole of modern Afghánistán, came under his sway. He subsequently conquered all the countries to the west of the river Indus, and also certain of the upper provinces of India. . . . At the time of which we are now speaking a small portion of the north-west frontier of India was in a state of vassalship to the warlike ruler of Capissa, or Kábul-Kohistán (see Grigorieff's "Kábulistán and Káfiristán"), but, in the seventh century A.D., this vassalship passed to Kashmir.

XII.—CAMPAIGN OF UGUZ-KHÁN.

Uguz-Khán was an Uigur of the Mongol race. His dominion was established in the eighth and ninth centuries of the Christian era. He, after overthrowing his rivals, including his own father, subjected to himself the nomad tents (*ulusi*) of his own tribe, and also those of neighbouring tribes, and, as soon as he had got the power into his own hands, he organised and disciplined an army, with which he yearly carried out campaigns, defeated the Tatars, who at that time possessed part of China, and so amassed an enormous amount of booty. His successes brought him allies, and he then, after securing his own country on the side of China, launched his cavalry to the west and south-west, and conquered many sovereignties, including Tibet and Kára-Kitai, and he then undertook a campaign against Turkistán and

¹ When the Saks made their appearance in India, they altogether lost their distinctive designation, and likewise went by the name of Scythians.—*Author.*

India¹. His first movement in this direction was the passage of the Oxus (Amu-Daria) and the conquests of Bactria. After this he led his troops into the province of Ghuri, an undertaking which involved a laborious mountain expedition, during which the Mongol army moved forward with the greatest difficulty. . . . We know, too, that Uguz-Khán army, which crossed the Hindu-Kush during the winter season, consisted of cavalry alone. Proceeding onwards, Uguz-Khán took possession of Kábul and of Ghazni, and thence made inroads into the valley of the Indus. But his primary objective was Kashmir, of which the sovereign at the time was one Yágma. Defended as he was by wide gorges and high mountains, Yágma refused to surrender to the Mongol invader of his country. A whole year was taken up with the subjugation of Kashmir, during which much blood was shed on both sides. At length the Mongols occupied the country, and put Yágma and his troops to the sword. After the lapse of some time, Uguz-Khán marched towards Samarkand, passing through Badakhshán on his way back to his own country, Mongolia.

The campaign of Uguz-Khán against Turkistán, Bactria, Afghánistán, and India is best described as "a brilliant cavalry raid," for, in the space of three and a half years, the Mongols traversed more than 7,340 miles. Passing rapidly over the steppes, their cavalry was detained at certain of the forts of Turkistán, and in the mountains of Afghánistán, on account of a severe winter and deep snow. After they had conquered a portion of Afghánistán, and had invaded India, they subdued the mountain country of Kashmir, and proceeded *via* Gilgit and Yassin, and then crossed, by the Darkot and Baroghil passes (12,000 feet above sea-level), into Badakhshán.

We do not know what was the length of the baggage train which accompanied the army of Uguz-Khán, but we do know that it had with it camels, or in other words, pack transport.

What, then, were the chief causes that enabled this intrepid Mongol leader to carry out military triumphs so surprising? That he was a highly-talented general there can be no doubt; but evidently that is not the sole explanation of his remarkable successes. We suppose, therefore, that one of the principal reasons of these successes lay in the fact that the Mongol troops had excellent horses, which they knew how to ride *and to preserve*.

The excellence of their horses constituted the great military superiority of the Mongol Tatars, but no less remarkable was the ability to do with little and poor food, which characterised the Mongol and the Tatar of those far-off times.

XIII.—CAMPAIGN OF SABAKTAGIN.

Sabaktagin was the founder of the greatness of the Ghazni kingdom and of the dynasty of the Ghaznivides. He was both an excellent soldier and a good ruler. The first conquests which he undertook were towards the south-west, and soon his standards waved on the banks of the Helmand. But as an orthodox Muhammadan, Sabaktagin soon turned his attention eastwards, in the direction of India, where reigned "the unbelievers."

¹ Uguz-Khán is spoken of "as the possessor of the greater portion of the universe," and as having "reigned for seventy years," in the *Sheibaniadi*, or *History of the Mongol Turks* (in the Jagatai dialects, with notes and addenda). I. Berezin, Kazán. 1849.—*Author*.

Having defeated the Indian sovereign Jaipál, who at that time possessed Kábul, he compelled him to conclude a treaty of peace; but when Jaipál broke this pact, Sabaktagin invaded Lughmán¹ and "turned a flourishing and populous country into a desert." He also took possession of many other parts of the country, everywhere overthrowing the Buddhist temples and other local shrines, and erecting mosques on their ruins.

Malcolm, on the authority of Zeenat-ul-Tuarikh'a, says that Jaipál confronted the Mussulmáns with an army of 300,000 men, but was attacked and out-manœuvred by Sabaktagin's army of 60,000 men. The Indians then fled, leaving behind them an enormous booty. Sabaktagin subsequently occupied Peshawar. His death took place in the year 997 A.D.

XIV.—CAMPAIGNS OF MAHMUD OF GHAZNI.

Máhmud, the eldest son of Sabaktagin, may be called the real conqueror of India, since he undertook no less than twelve campaigns against that country. He was 28 years of age when he ascended the throne of Ghazni.

The campaigns of Máhmud, undertaken from Gházní towards India, perfectly convince us, as we shall see further on, of the practicability of the so-called Gomal pass, leading from the town of Ghazni to the banks of the Indus at Dera-Ismail-Khán.²

Máhmud's first campaign against India was conducted in the year 1001 A.D. Entering the province of Peshawar, he encountered the army of Jaipál. Máhmud's force consisted of 10,000 all told, whereas Jaipál confronted him with 12,000 horsemen, 130,000 foot soldiers, and 300 elephants. The Indians were defeated, and Jaipál was taken prisoner, but he was released in return for a heavy ransom, and his necklace, valued at eight *lakhs* of rupees, was taken from him. After this, Jaipál, who had been twice defeated by the invader, vacated the throne in favour of his son. Ananidnapal, and voluntarily immolated himself on a funeral pyre.

The same year (1001 A.D.), Máhmud returned to Ghazni, after setting up his own administrator at Peshawar, and annexing to his monarchy the country along the right bank of the Indus. During the three following years Máhmud, at the head of a powerful army, composed of Arabs, Turks, Afgháns, and other Muhammadans, carried out three campaigns against the north-west of India. These resulted in the annexation of the town of Multán, together with the whole of the Peshawar Valley. He spared no human life, except on condition of conversion to Muhammadanism. The Indians, therefore, called him "the destroyer," for he both slew them and overthrew and plundered their temples.

During the first ten years of his unbroken series of campaigns against India, Máhmud went no further than the province of the Punjáb; but, in the year 1011 A.D., he decided upon carrying the war into the heart of India, and into those other provinces that were vast, thickly populated, and rich.

¹ Grigorieff's *Kábulistán and Káfristán*.—*Author*.

² Besides the two well-known passes which lead from the west into India, viz., the Khaibar and the Bolán, there exist also other intermediate routes across the Suleiman range, by which it would be possible for a strong army to open a way for itself into India.—*Author*.

In the year 1013 A.D. Máhmud sent an army to pillage Kashmir, and in the year 1015 he again invaded that country. At last he resolved to attack Kanouj, which at this period was the capital of India; but Delhi, as the more ancient capital, was still celebrated for the luxuriance of its wonderful gardens. Delhi, too, was the chief Hindu mart, and the most important of the trade centres of Hindustan. Accordingly, in the spring of the year 1018 A.D., Máhmud, having got rid of the difficulties which he had encountered at Kharezmi (Khiva) and Bukhára, and having placed a large army in winter quarters at Báikh, advanced at the head of 100,000 cavalry and 30,000 infantry against India. His route lay through Kashmir, and towards Peshawar.

This movement was, however, only a feint, and intended to screen his real objective. The march was a triumph, and one that excites profound amazement. Indeed, it could only have been carried out and conducted by a man possessed of unusual strength of will, before which everything bowed itself, and whose possessor could make his officers and soldiers fulfil that which no one else would have dared to demand from them. Several of the highest ranges had to be crossed by Máhmud's army. This army traversed countries of remarkable sterility. It surmounted colossal snow passes and dangerous mountain torrents. And all this was done to conceal the real objective of the army.

Thus Máhmud led his army, or at any rate a part of it, from Kashmir towards Leh (situated at a height of 11,740 feet) and Ladák, and so gradually rose to the Shushul and Hardoh passes (13,736 and 14,240 feet respectively above the sea-level). He then crossed the Himálayan range, either near Dengo (18,230 feet) or near Tinkur (16,200 feet). It required an iron will to carry out such a march, and one glance at the map will show that the Hindus most probably never even suspected the approach of the Mussulmán army from such a direction. It was only when that army appeared on the western frontier of Nepál that they became aware that the terrible commander had really come with a powerful force to attack the very centre of India. It was now too late, however, for them to do anything in the way of preparations, for Máhmud, with his brilliant cavalry, rushed upon Kanouj (in the valley of the Ganges) like a whirlwind and utterly destroyed that city.

After a three days' occupation of Kanouj, Máhmud of Ghazni advanced upon Meerut, distant $36\frac{3}{4}$ miles to the north-west of Delhi. Having besieged and captured this town he sacked it, and then turned south towards Muttra, 80 miles distant from Delhi, and the then centre of Hindu culture. *En route*, Máhmud attacked and took Mavin, a strong fort on the Jumna. After seizing the town of Muttra and killing the numerous priests and pilgrims there collected, he ordered all the temples to be overthrown, and then, laden with unheard of booty, and with a large number of prisoners (both men and women), Máhmud marched leisurely towards his own capital, Ghazni, which became adorned with the finest buildings, and which he converted into one of the most important towns in the East, and the centre of Mussulmán poetry and learning.

The last campaign of Máhmud against India took place in the year 1024 A.D. He set out from Ghazni, at the close of the rainy season, at the head of a force of cavalry numbering 80,000 men, mounted on horses selected with special care. He crossed the Suleimán

range by the Gomal pass and soon reached the town of Multán, which lies distant from Ghazni 370 miles. Here he collected all the provisions and forage necessary for his army, and, with a baggage train of 20,000 camels, he marched across the desert in the direction of Ajmere, the capital of Rajputána, distant from Multán 180 miles.

Ajmere having been taken and the waterless desert of Marwar having been crossed, Máhmud made his appearance before the famous town of Angulwara-Patan (Narvala), the capital of Gujerát. This town lay equidistant between the Gulfs of Cutch and Cambay, and played, at this time, in India the part of ancient Tyre, for it had trade relations with eighty-two maritime Powers of Europe, Asia, and Africa.

From the plundering of Angulwara, Máhmud marched towards Patan-Somnath, or Deví-Patan, the walls of which town encircled the temple of Soma, one of the most sacred in Hindustán. After obtaining possession of the wall of the sacred portion of the city, during the dead of night, Máhmud led his army on to the storming of the temple, but a large body of Brahmins and of pilgrims made such a desperate resistance that the ranks of the Muhammadans wavered. Máhmud hereupon dismounted from his horse, and kneeling down, prayed to God that He would deliver the idols "of the unbelievers" into his hands. Then he arose, and leading his favourite general by the hand, he called upon his men to follow him. Thereupon his troops dashed forward, and soon all the idols were broken down. The Indians then turned and fled, and the Brahmins offered a ransom of £10,000,000,¹ but Mahmud refused the offer, and left of the temple not one stone upon another. The idols he sent away to Mecca, Medina, and Ghazni. So terminated one of the most daring undertakings of the conquerors of India. During his return to Ghazni, *via* Multán, Máhmud lost, in the desert of Rajputána, fully one-third of his army, owing to privations undergone on the route. At length, in the autumn of the year 1026 A.D., he reached Ghazni once again, and so completed the history of his campaigns against Hindustán.

Máhmud has undoubtedly the right to be classed amongst the number of the greatest of military leaders: for, in the course of a 34 years' reign, he personally conducted 19 campaigns, and was the victor in 30 engagements and sieges. No climate disconcerted him; no season of the year had any terrors for him; and he bore himself with equal fortitude in the uninhabited plains of Persia, Turania and Scinde, as on the wide and swift rivers of the Punjáb, or on the loftiest mountains of the Hindu-Kush and Himálayas, or amidst the perpetual snows of Tibet.

Having undertaken twelve campaigns against India, and having annexed to his dominions Multán, Peshawar, and Kashmir, he held in subjection the greater part of the Indian peninsula. In the intervals, too, between his Indian campaigns, he and his generals conducted minor expeditions to the north and west. Thus he despoiled the Uzbek ruler of Káshgar, and seized his country. He subjugated the mountain province of Ghuri, likewise a considerable portion of Central Asia, Seistán, Khorássan, Irák, the Southern Caucasus (Georgia), and the whole of Western Persia, excepting Ispahán, where he placed his own son on

¹ In the temple of Soma there were sixty-six pillars of wrought gold, connected by a long chain of the same metal. The idols were studded with precious stones; and in boxes there were heaps of diamonds and a countless quantity of pearls.—*Author*.

the throne. The whole of the intervening countries also came under his dominion; so that his vast empire extended from the Caspian Sea and the Persian Gulf to Káshgaria and the Ganges.

Máhmud of Ghazni may be regarded as the founder of the Afghán power and of the Muhammadan dominion in Hindustán. He died in the year 1030 A.D., in the sixty-third year of his age and the thirty-fourth of his reign.

XV.—CAMPAIGN OF MUHAMMAD OF GHURI.

Ghuri (or Guri), an ancient province of Khurassán, was conquered by Máhmud of Ghazni in the eleventh century A.D., and was annexed by him to the Ghazni Empire; but he allowed this province to be administered by its own princes, acting in his name. The inhabitants of Ghuri were considered to be pure Afgháns, and from the most ancient times have been a warlike race and have had great influence on the country now known as Afghánistán. A little before the twelfth century a civil war broke out between Ghuri and Ghazni, which terminated in favour of Ghuri and in the destruction and plunder of Ghazni.

Allah, the founder of the dynasty of the Ghuridæ, annexed to his dominions Ghazni, a part of India, Báikh, and Herát. He was then attacked by Sindjur, the chief of the Seljukidæ, and with difficulty saved his life. Allah died in the year 1155; and his son, who succeeded him on the throne of Ghuri, was slain by the Turks. In the year 1186 A.D. Jaigaz, Allah's nephew, ascended the throne, and he entrusted to his brother, Muhammad Shabab, the administration of the Indian provinces of the Ghuri dynasty.

Thus Muhammad Shabab is known in history as Muhammad of Ghuri. He was the second Muhammadan invader of India.

In the year 1186 A.D. Muhammad of Ghuri marched with an army against Khusir, the Ghaznvide ruler of Lahore, to which city he laid siege, having possessed himself meanwhile of the Peshawar valley, of Multan, and of almost all the provinces along the course of the Indus. He twice failed to take Lahore. At length, after the manner of Asiatics, he had recourse to treachery, and so obtained possession of the persons of Khusir and of his family. Having effected this, he mercilessly put them all to death. Thus sadly and fortuitously perished the last member of the famous dynasty of the Ghaznvides, a dynasty which had reigned for 189 years.

In the year 1191 A.D. Muhammad marched against Ajmere, 233½ miles to the south-west of Delhi. The ruler of both places, at this time, was the famous Pitavra, of the princely house of Rajputána, under whose standard was enrolled every brave and renowned person throughout India.

The hostile armies met on the banks of the Sursutai river, at a point 14 miles distant from Tanesar, when a long and bloody battle ensued, which began by the Indians advancing to the attack and driving the Muhammadans from their position.

Muhammad of Ghuri then rode forward and attacked the elephant on which Pitavra was sitting. Muhammad received a wound, and would have been captured by his adversary but for the devotion displayed by his personal attendants. The Afghán army hereupon fled, and was pursued by the Indians for a distance of 40 miles.

Muhammad of Ghuri's defeat on this occasion was complete. He remained at Lahore until he had recovered from his wound, and then

marched first of all to Ghuri, and then to Ghazni, a point which is of the first strategical importance with regard to the valley of the Indus.

Here he remained for three years, and quickly got together another army.

Accordingly, in the year 1193 A.D., he sent to the Punjáb a force of 50,000 cavalry, under the command of Kutub, a former slave; and the result of an alliance between the forces of Muhammad and of Jaihund, the sovereign of Kanouj, was the occupation of Delhi by the Muhammadans in the year 1193.

In the following year Muhammad resolved to undertake from Delhi a campaign into the interior of India. It then became manifest that the three years, which he had spent at Ghazni, had not been wasted, for he set out at the head of 100,000 excellently-equipped cavalry, selected from amongst Turks, Persians, and Afghans.¹

We have already said that Muhammad sent Kutub in advance with 50,000 cavalry. And then, as so often happens, an ally was turned into an enemy, for subsequently Muhammad and Kutub joined forces and marched against their former ally, Jaihund of Kanouj, who confronted the Mussulmans with an army of 300,000 men. No less than 150 minor Indian potentates joined this large force, swearing by the waters of the holy Ganges that they would either destroy their enemies or die and obtain a martyr's crown.

Muhammad made a night attack, which was so impetuous that the Indian host wavered (the rows of elephants being broken through), then got into confusion, and finally fell back in full retreat. A great slaughter now took place; and the proud Jaihund, unable to endure his defeat, cast himself into the Ganges and was engulfed in its sacred waters. The magnificent and ancient city of Kanouj, the capital of India, was now given over to final destruction, for it never again rose from its ruins,² which, however, are still to be seen as a testimony to departed splendour.

In the year 1195 A.D. Muhammad took possession of the sacred city of Benares, situated on the Ganges, at a distance of about 266½ miles from Kanouj. Here he met with but feeble opposition, so he simply occupied and plundered the city, slew the priests, and broke down the Hindu temples. In and around Benares the number of temples thus destroyed was computed at a thousand, the amount of booty which they contained being something fabulous.

¹ "Perhaps," remarks Sullivan,² "there has never entered into India such a vast army of mercenaries, for almost every warlike race of Northern and Central Asia sent its representative to share in the enormous plunder of India." [N.B.—In General Soboleff's work this passage is in italics.—W.E.G.]

² *The Conquerors, Warriors, and Statesmen of India*. London, 1886. According to Sullivan, Muhammad of Ghuri's route lay through Peshawar. He says "he crossed the Indus and marched to Peshawar"; but we are not aware on what authority his statement is made; for if Muhammad of Ghuri went through the Gomal Pass to go to Peshawar, he would not have had to cross the Indus at all. If, on the other hand, he did cross the Indus, then, in order to get to Peshawar he must have re-crossed that river, and in order to reach Lahore from Peshawar he would have had to cross the river a third time. Again, if he went through Kabul and the Khaibar Pass, he evidently reached Peshawar without crossing the Indus.—*Author*.

³ It will be remembered that the first destruction of Kanouj was at the hands of Máhmud of Ghazni.—*Author*.

After this the stern conqueror set out on his return march to Ghazni, following the route through the Gomal pass.

This campaign indisputably belongs to the number of the most remarkable in military history, for it was a cavalry raid in the widest acceptance of the term. One general engagement, which decided the fate of the principal, the most warlike, and the most powerful state in India, was a night attack of cavalry masses. Muhammad of Ghuri displayed remarkable military talent, and combined in the highest degree two important qualities in a leader—caution and decision; and we have already said he was a man possessed of an iron will.

This campaign, moreover, decided a very important question, *i.e.*, the possibility of finding forage in Northern India for 150,000 cavalry horses. There can be no doubt, too, that Muhammad of Ghuri returned to Ghazni by the Gomal pass of the Suleimán range; and it was by the same pass, as we already know, that Máhmud of Ghazni went on more than one occasion. Thus it is now manifest that the Gomal pass, which lies between the Khaibar and the Bolán, is practicable at almost every season of the year, not only for small bodies of troops, but for entire armies, since Nádir-Sháh, as we shall see further on, kept up the reputation of this pass as a practicable route for troops of all arms.

During his reign—which lasted for 32 years—Muhammad of Ghuri carried out nine campaigns against India; and from seven of these he returned with an enormous amount of booty. He was killed by the Jâts on the banks of the Niláb, almost on the very spot on which he had defeated Pitavra, the Hindu sovereign of Delhi. On the death of Muhammad of Ghuri the sovereignty, which he had built up, was divided amongst his principal commanders.

(To be continued.)

WHAT HAS THE BOER WAR TO TEACH US, AS REGARDS INFANTRY ATTACK ?

*A lecture delivered before the Military Society of Berlin, 5th March, 1902,
by Lieut.-Colonel von LINDENAU, of the German General Staff.*

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"Militär-Wochenblatt."

(Continued from February JOURNAL, page 195.)

THE BATTLE OF SPION KOP.

BULLER on the 9th January marched out of camp to the left of Chieveley, towards Springfield, so as to cross the Tugela further up. Lyttelton's brigade was advanced towards Potgieter's Drift, crossed the river at this point, and took up a position at One Tree Hill. The main body, under Warren, crossed the Tugela at Trichard's Drift by means of a pontoon bridge, and took possession of the heights of Venter Spruit. The Boers had occupied the heights from Kranz Kloof to Taba Myama without disturbing the crossing of the river by the British. General Warren with the main body was entrusted by Buller with the attack on the Boer position, and received secret instructions, in which he was ordered to "refuse his right flank at Spion Kop, and to advance with the left." After Lyttelton's effort of the 19th January to advance on the right against the Brakfontein heights had failed, and Warren's endeavour to push forward two brigades via Acton Homes had been frustrated by the Boer Artillery, the brigades of Woodgate and Hart, and six batteries under Clery, attacked the Taba Myama on the 20th, and succeeded in gaining possession of the southern border of the mountain after a fight lasting twelve hours, only to find a strongly-entrenched position on the plateau in front of them, against which they could make no way.

Lyttelton renewed his attack on the right against the Brakfontein heights, but was again repulsed, as the hope which he had when advancing, that he had established a fire-superiority, proved to be a false one. In all these attacks the British advanced, on the whole, according to the drill book. Firing lines, in rather close order, were followed by supports, and where whole companies were deployed, other companies of the same battalion followed in rear. It was these supports, in close order, which suffered the heaviest losses.

The lines which led the attack lay down finally in nearly all these fights, at about 800 to 1,000 metres from their opponents.

On the 21st January, when the fight on the Taba Myama had been continued without success, and had become all the more difficult owing

to the gradual prolongation of the Boer right wing, Warren decided to attack Spion Kop.

Spion Kop is considerably higher than Taba Myama, and rises up like a tower over the Brakfontein heights. It is the key of the position, and once it was taken the remaining portions of the position would become untenable for the Boers. The flat top of the mountain is in the form of a triangle, and the sharpest angle of this triangle lies to the south-west. Here the tableland is exceedingly narrow, which makes the deployment of troops a very hazardous operation. The mountain is less steep on this side than on any other, though it is quite tiresome enough to climb even here.

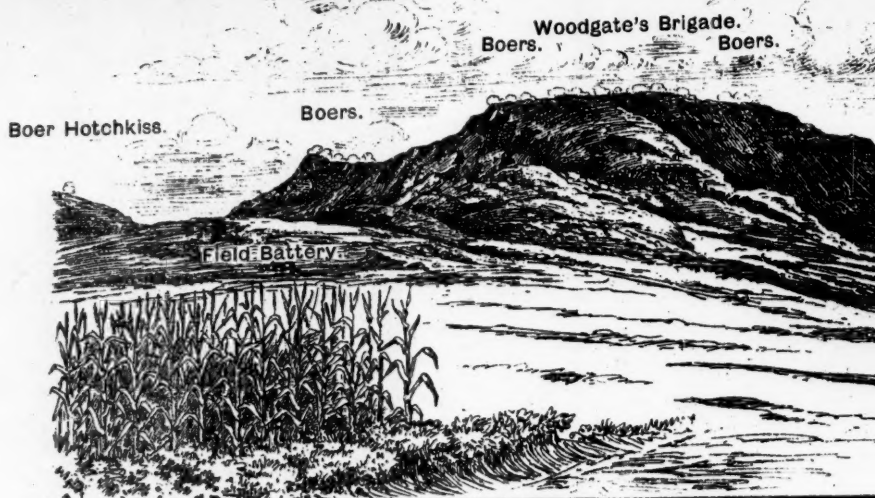
After the artillery had opened a more or less ineffective fire on the 23rd January, the three and a quarter battalions of infantry intended for the attack—namely, the 2nd Battalion Lancashire Fusiliers, the 2nd Battalion Royal Lancaster, and two companies of the Connaught Rangers, with 200 Mounted Infantry, and a half company of Engineers, the whole under General Woodgate—climbed up Spion Kop in a single long line, with tenacious energy, on the night of the 23rd and 24th, whilst the Imperial Light Infantry followed to the foot of the mountain. At three o'clock in the morning the attacking troops reached the south-west point of the plateau, rushed the weak posts and the two front lines of defenders, and were at four o'clock in possession of the whole of the southern part of the plateau, where they took up a defensive position. At eight o'clock in the morning the Boers, who had been gradually collecting reinforcements from the other portions of their position, from Ladysmith and from Colenso, commenced the counter-attack. They took full advantage of any cover offered by the ground itself, and advanced in small groups of from three to fifteen men. During this advance they maintained a steady, well-aimed fire. When the British fire became hot, the majority of the Boers lay down and waited. Only one man in each group remained on the look-out, but all kept their rifles ready, to resume the attack on the instant, to fire, and immediately to lie down again. The Boer proved himself here to be an excellent skirmisher and marksman, who knew thoroughly well how to hit small objects such as men's heads. By their life in the open, under the free air of heaven, and constant practice in the chase, the Boers had acquired excellent qualities as individual combatants which fitted them for movements in extended order, such as could not be obtained in a military training of only two years' duration. The two Nordenfeldt guns on Spion Kop itself, and single pieces from Taba Myama, supported the infantry attack. In spite of this, the fight for possession of the mountain swayed to and fro with varying success.

At 10 a.m. Colonel Crofton sent the following message by heliograph to Sir Charles Warren:—"Reinforce at once, or all is lost. General Woodgate dead." Warren answered:—"I am this moment sending two battalions (the Middlesex and Dorsetshire), and the Imperial Light Infantry is already on its way. *You must hold on to the last. No surrender.*" After various changes, the command on Spion Kop ultimately went to Lieut.-Colonel Thorneycroft. At eleven o'clock a.m. the reinforcements arrived. There were now five and a half battalions in position on top. The attack of the Boers came completely to a standstill, yet they still maintained an effective fire, which could not be effectively replied to by the British owing to the impossibility of any extension of front.

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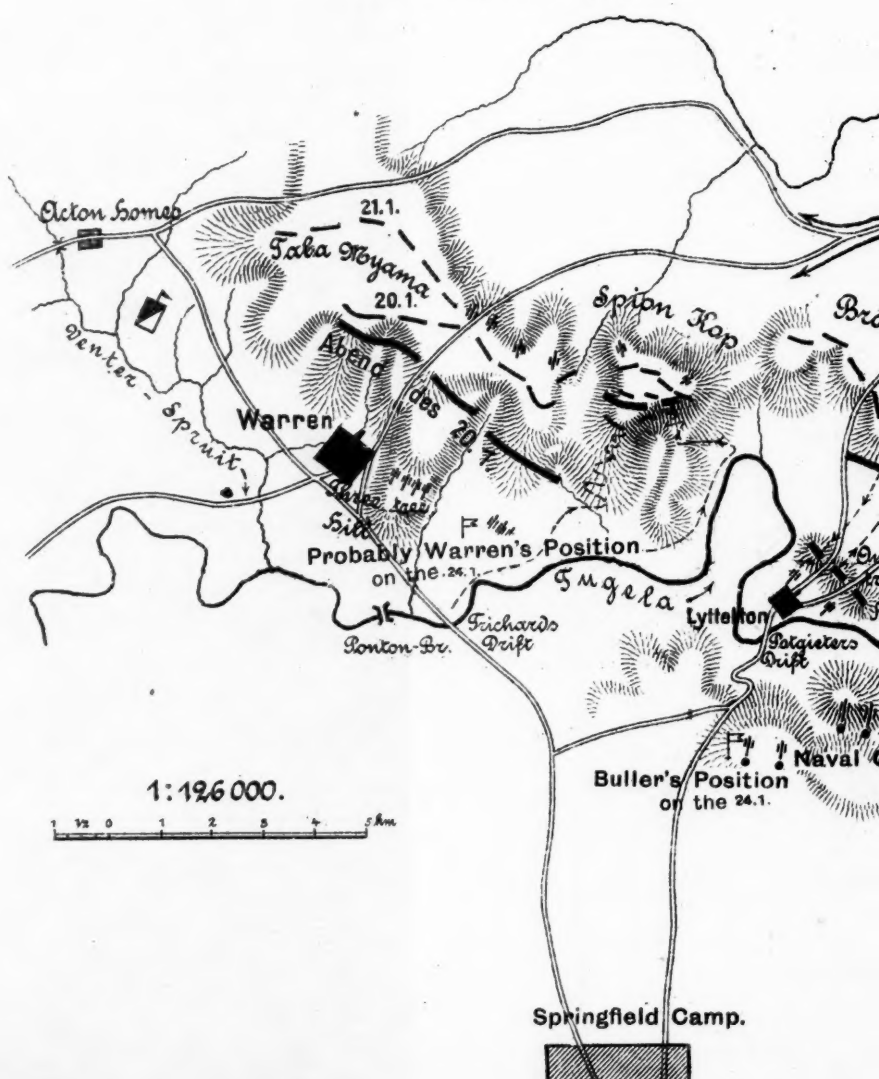
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VIEW OF THE BOER POSITION AT SPION KOP, AS SEEN FROM THE ATTACKER'S SIDE.

SKETCH OF THE BATTLES OF SPION KOP,
19th to 24th JANUARY, 1900.



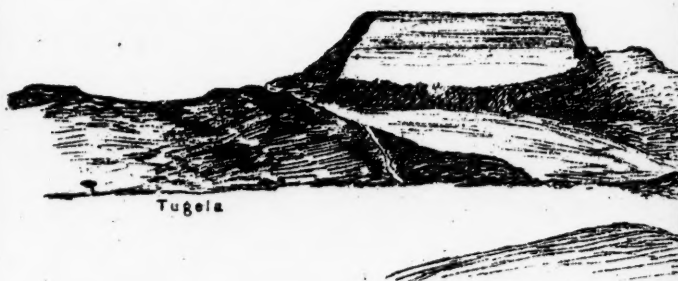
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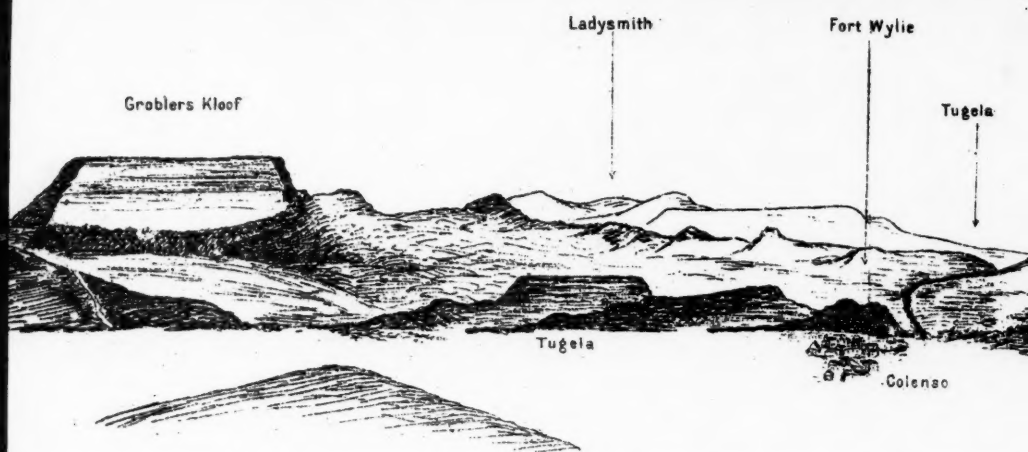
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VIEW OF THE BOER PO

FROM



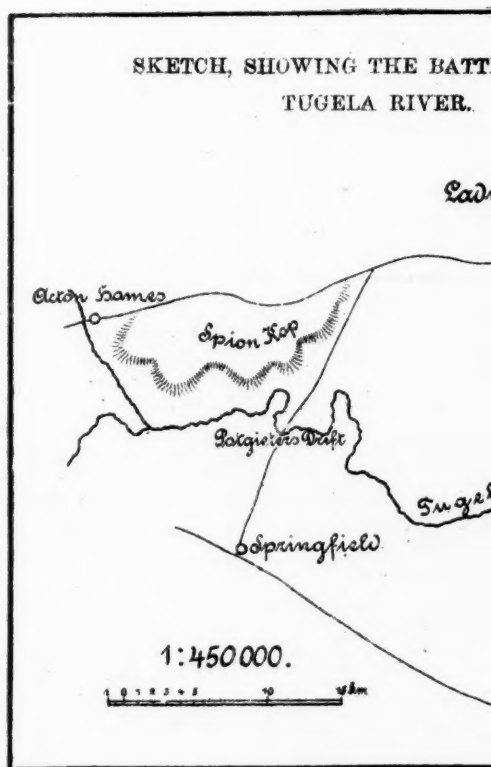
		ATTACKER.		DEFENDER.	
Leaders	-	GEN. BULLER (WARREN)		LOUIS BÖTHA.	
Troops	-	{ 20½ Battns., 14 Sqdns., 9 Batts., 8 Naval guns			
Strength	-	{ 20,000 men. 60 guns		4,000 men 6 guns.	
Losses, 19th to 24th		Officers & Men	Per cent.	Officers & Men	Per cent.
Killed	-	324		70	
Wounded	-	1,113		230	
Totals	-	1,437	7.2	300	7.5
Of single Units on the 24th Jany.					
2nd Royal Lancaster Regt.		136	17		
2nd Lancashire Fusiliers		138	17.2		



VIEW OF THE BOER POSITION AT COLENZO, AS SEEN FROM THE ATTACKER'S

FROM A SKETCH BY CAPTAIN FREIHERR V. LÜTTWITZ.

ATTACKER.		DEFENDER.	
GEN. BULLER (WARREN)		LOUIS BOTHA.	
{ 20½ Battns., 14 Sqdns., 9 Battns., 8 Naval guns		4,000 men 6 guns.	
{ 20,000 men. 60 guns			
Officers & Men	Per cent.	Officers & Men	Per cent.
324		70	
1,113		290	
1,437	7.2	300	7.5
136	17		
138	17.2		



Wylie

Tugela

Hlangwana-Hill

Colenso



THE ATTACKER'S SIDE.

THE BATTLES OF THE TUGELA RIVER.



On the right wing General Lyttelton renewed his attack on the Brakfontein heights on the 24th inst. But, receiving a direct request from Spion Kop for support, and not understanding the position of affairs, he interpreted the request too literally. Instead of bringing all the force possible into action, and intercepting the reinforcements the Boers were directing on Spion Kop, he sent away the Scottish Rifles and the King's Royal Rifles—that is to say, two more battalions—to Spion Kop. The former struck the track made use of by the other troops; the latter lost their way, and commenced climbing up the eastern side. The ascent on this side of the mountain was almost perpendicular, and, therefore, most fatiguing. Still, as it was completely over the dead angle, the battalion gained the summit, in spite of the hotness of the fire. But here it could go no further. At 5.15 in the afternoon they had arrived at the top, and seven and a half battalions were now massed on the mountain on which, in the early morning, two and a half battalions had been unable to find enough room. One portion sought cover on the slopes. Yet here they were reached by the Maxim guns. A large number of troops got mixed up together, and suffered considerably from want of water.

This mass of troops, crowded up together in one place, affording no room for deployment, reminds one of the 43 companies at St. Hubert, in the battle of Gravelotte, on the 18th August, 1870. Just as in that battle, in the pressure of action, all reinforcements were pushed forward by the same road, and no one heard the order to go "Half right"—down to the Mance, and by moving along its bottom, making for the heights of Point du Jour—so were the troops at Spion Kop detached from their proper forward movement and crowded together on a narrow mountain in the worst possible manner.

Warren was of opinion that the mountain *could* be held if guns could be got into position on the top, and accordingly arranged to have two naval guns and the 4th Mountain Battery brought up with the aid of Engineers.

Thorneycroft, who had personally remained in action on Spion Kop for the whole of the 24th, knew nothing of these measures. He was convinced that the mountain could *not* be held, and accordingly gave orders for the retreat, which commenced at 8.30 in the evening.

Considering all the facts as known to us now, there is no doubt whatever that Warren's view *was* the correct one. But this was by no means clear to Thorneycroft. General Warren is blamed in many quarters for not having gone to the top of Spion Kop himself. I am of opinion that, being in supreme command, he was right in not doing so. Up there he would have lost all control over the force, and could not see the general position of affairs. He would most certainly, under the stress of the fighting, have formed the same opinion—that the mountain was untenable—as Thorneycroft, who was conspicuous for his bravery throughout the whole of the day, did. Warren would have, in fact, committed the same mistake at Spion Kop which Buller, as already mentioned, made at Colenso.

But it was Warren's fault that no communication was established for many hours between him and the troops on Spion Kop. It was his duty, when the heliograph failed, to establish communication by other means, and his error in not doing so brought a bitter revenge. Moreover, it was the duty of the General Staff to see that, even before guns, water should have been brought up the mountain, for the troops needed it most sorely. We hold, nevertheless, that, thirsty and shattered

though they were, the troops should have maintained their position on Spion Kop, as the 43 Prussian companies maintained theirs, in the battle of Gravelotte, at and to the west of St. Hubert. *They* remained from five o'clock in the evening to the end of the fight in their confined position. The voluntary evacuation of Spion Kop was nothing less than making a present of victory to the enemy. But it would certainly not have had to take place had the attack been supported by a simultaneous advance on the flanks.

The brigades of Hart and Hildyard—that is, eight battalions—had remained inactive during the fight on Spion Kop, on the 24th January, on the left flank, with their arms piled. Two battalions of Woodgate's brigade were kept in rear, as also one of Coke's. The total number of battalions which did not take part in the fight was, therefore, eleven;¹ and these could have been made use of for the attack of the flanks.

It was only by reason of the indifferent manner in which the main attack was supported that the Boers found time to obtain reinforcements from the neighbourhood of Colenso and Ladysmith, and were thus enabled to carry out a counter-attack at the most effective point. The most that they should have been able to bring up would have been only a weak battalion. But the manner in which they carried out this attack, which no one exactly commanded, but in which they found themselves involved, as it were, by chance, jumping and crawling, is, I must say, uncommonly characteristic of them.

The outcome of the three battles described shows us, in the most distinct manner possible, *that the failure in all three cases was due far more to the lack of energy in the carrying out of the attacks, and the unskilful formations adopted, than to any errors of direction.*

11. THE INSUFFICIENCY OF ENERGY IN THE CARRYING OUT OF THE ATTACK.

He who attacks must make up his mind to make use, regardless of cost, of his last man in the endeavour to gain the victory. It is only after the last Reserve has been brought forward without success, that an attack can be said to have failed. Whoever gives it up before this is giving up himself; he is failing, not in the means which he adopts, but in neglecting to put them to their full use.

At Magersfontein there remained completely intact $4\frac{1}{2}$ battalions, at Colenso 7, and at Spion Kop 11. Accordingly, of the troops available for the battles above mentioned, expressed in percentages, the numbers who took part in the attack were: At Magersfontein 65.4 per cent., at Colenso 57.6 per cent., at Spion Kop on 24th January, 46.8 per cent. At Magersfontein, the whole of the 9th Brigade was employed in subordinate duties, such as baggage guard, &c., and in guarding the right flank, which was in no danger. At Colenso, only the 2nd and 5th Brigades took part in the attack

¹ According to some British accounts, two battalions of Barton's Brigade arrived in time to have taken part in the fight, but they were not pushed forward. The number of battalions, accordingly, of which no use was made would thus be thirteen. However, as it has not been proved that these two battalions did arrive in time, I have left them out of my reckoning.

proper. Only small detachments of the forces kept in the second line, at a maximum estimate 1,500 men, were told off to rescue the guns which the first line had lost, and cover the retreat. During the battles of Spion Kop Barton's brigade remained inactive 50 kilometres from the battle-field, although it appears detachments were sent on to the battle-field. But he should have advanced with his whole force, after the Boers had hastened from Colenso and Ladysmith to the Spion Kop region, for the communications were no longer in any serious danger.

The lack of energy, however, employed in the prosecution of the attack was not alone in the insufficient employment of the forces at disposal. It is revealed in the *percentage of losses*. These appear on the plates (Nos. 1, 2, and 3), and have been calculated from the number of British troops actually employed in the various battles. They amounted to 7.4 per cent. at Magersfontein, 5.8 per cent. at Colenso, and 7.2 per cent. at Spion Kop. Compared to these losses, our infantry at Mars la Tour had 25 per cent. of losses, and the Guards' Infantry at St. Privat had almost 30 per cent. Taking the individual troops which suffered most, at Magersfontein, the percentage of losses in the Black Watch was 25, and in the Seaforth Highlanders 23.4. At Colenso, those of the Royal Dublin Fusiliers were 23.9, and the Connaught Rangers 16.1. At Spion Kop the percentage of losses in the Lancashire Fusiliers may be set down at 17.2. Taking as comparisons from the battles of the war in 1870-71, the losses of those troops who suffered the heaviest fire, the following examples are adduced. The Rifle Battalion of the Guards at St. Privat lost 54 per cent., the 16th Regiment at Mars la Tour 68 per cent., the 52nd Regiment at Mars la Tour 52 per cent., the 2nd Franco-Turkish Regiment at Wörth 86 per cent.

In arriving at the percentage of losses, I would here remark that they have been calculated from the official lists of British casualties which were at my disposal, and I have refrained altogether from including the "missing." The discrepancies between my numbers and the higher percentages shown in several works on the war, such as the very carefully-compiled volume "*La Guerre Sud-Africaine*," by le Capitaine G. Gilbert, are explained by the fact that in most of these works the "missing" were included, whereas I have left them out, considering them irrelevant to my argument.

In the case of the British battalions, allowing for a certain amount of wastage, I have put down the average number employed in action as 800 men per battalion.

Captain Wójcik, of the Austrian General Staff, points out in his interesting book "*On the War in South Africa*," that before the Boer war, the losses to be expected, when brave troops attacked, would amount on an average to about 26 per cent. of the numbers employed. A portion of the British troops approached these figures very closely. Otherwise the losses were not so severe as in other bloody battles of modern times. In this sense, therefore, such expressions as "losses exceeding anything ever experienced," and "enormous losses," are not pertinent to the issue. On the other hand, it must be stated that the British losses at times took place in much shorter periods of time than similar losses in earlier wars. On several occasions a few minutes sufficed to bring about the major portion. The moral effect occasioned by the accumulation of losses in a short space of time, especially amongst troops in close formations, and in firing lines,

where the intervals were small, was almost overwhelming. It may be said that there was nothing new about this moral effect. This is true enough, but two circumstances have arisen to considerably enhance it—the absence of smoke on the battle-field, and the invisibility of the enemy. Captain v. Lüttwitz lays particular stress on this point. He says an English officer has described to him how that *the blankness of the battle-field* was the most unpleasant element in modern offensive warfare. One experiences the feeling, by reason of the distant ranges at which firing commences, of being opposed to an invisible foe, against which one has scarcely a single weapon to hand. And if one does make use of one's rifle at long ranges, one is shooting more or less by guesswork. But the defender may fire, as soon as he sees anyone getting up and moving forward, without being visible himself. At every forward rush the losses become heavier. And soon the moment arrives when any further movement, whether it be forwards or side-wards, or backwards, becomes an impossibility. In this way halts under fire will take place, where one must lie down for hours at a time.

Captain v. Lüttwitz then relates a case from the battle of Modder River where the Guards had lain for twelve hours under the enemy's fire at a range of 800 metres. Any movement was impracticable, and no orders or ammunition could reach the front. After 29 ammunition carriers had been shot all further attempts to bring up cartridges were abandoned.

12. ATTACK FORMATIONS.

When one considers the manner in which the attack in the three battles was carried out by the British, one is struck by the variety of methods employed. The principles laid down in the regulations of 1896 were not applied in all cases. The effect of modern firearms, especially amongst those officers who had come from India and the Colonies, was imperfectly understood. It is only thus that one can find explanation for the advance of the 5th Brigade in dense columns at Colenso under General Hart, and the unlimbering of the two batteries under Colonel Long (who had fought with great distinction at Omdurman) within 600 metres of the enemy's skirmishers. The advance of the Highland Brigade at Magersfontein is an instance of the careless approach on a position where the enemy was certain to be found. Of most in accord with the drill-book were the attacks of the Guards' Brigade at Magersfontein, the 2nd and 6th at Colenso, and the brigades to the east and west of Spion Kop. But even the attacks of these brigades made no proper headway; none of them terminated in the assault and capture of the enemy's position. Most of them failed after they had got little farther than to within medium ranges. The reason for this was chiefly on account of the impracticable manner in which the supports and reserves were handled. These are said to have moved at times in close order and too much on top of one another, a plan which, whilst it ultimately rights itself, is nevertheless much too frequently apparent at our own peace manœuvres. It should here be remarked that the distance given in section II., 76, of the German Infantry Exercises, namely, 200 metres as the interval to be observed in open country between the rear portion of the attacking force and that immediately in front of it, is, in view of the effect of modern shrapnel, insufficient. Relying on

section 28 of the Shooting Regulations for Field Artillery, 300 metres is the proper distance.

Together with the unskilful manner in which the rearmost troops were pushed forward, the failure of the British attacks is also to be attributed to the fact that the troops intended for the attack were *never brought together in proper time* to admit of their being able to effectually co-operate. Thus at Magersfontein the attack was first undertaken by the Highland Brigade and then by the Guards. At Colenso, the 5th Brigade advanced first on the left, then the 2nd Brigade advanced unsupported on the right, and then near it the 6th Brigade. At Spion Kop Lyttelton first attacked the Brakfontein heights, then Clery with his brigades attacked the Taba Myama, then Woodgate Spion Kop, and then Lyttelton again the Brakfontein heights! In this manner the defender, who was not sufficiently held in check at any one spot, could move his forces along the front at will. And so great was his mobility that his forces could be moved from place to place with extraordinary rapidity.

At Magersfontein and Spion Kop the extent of front occupied by the defender was about 9 kilometres and at Spion Kop 17 kilometres. Opposed to this, the English Commander, who desired to attack in front with the bulk of his force, committed the mistake, at Magersfontein and Colenso, where his strength was about a division, of extending to a frontage of 6 kilometres, suitable only to a full army corps, and at Spion Kop of spreading out his forces over a frontage of 12 kilometres.

No uniform plan of attack on front and flank, by well-ordered units acting in concert, was ever carried out, or arrangement made for gradually developing the attack to its full extent by systematically bringing up fresh troops. In places the battles at times were such that one portion of a force looked on whilst the other was being beaten.

The description of the battles given shows with sufficient clearness what was the real state of "the wonderful cohesion" of the British troops in the early stages of the war. With the best will in the world, I cannot understand how anyone can seek to deduce from the course of these battles the fact that the distribution of troops as to depth, laid down in our regulations, is unsound. Further, from experiences in the other battles of the war, which I studied for my own benefit, I cannot understand how anyone can have arrived at such a conclusion. It must have been arrived at from a whole series of isolated occurrences. On the other hand, we see that the British procedure on many occasions differed materially. It is very difficult to characterise it in general. In the earlier portion of the war it bore the stamp of excessive haste, and failed owing to the adoption of faulty formations and to the lack of marksmanship amongst the troops, but not on account of the tactical principles laid down in the text-books. It may even be said with certainty that where the course of an action allowed the recognised principles to be most readily applied, such as the attack of the Guards' Brigade at Magersfontein, and the 2nd Brigade (Hildyard) at Colenso, the results were more satisfactory. Nowhere from the experiences of these fights can I deduce the conclusion that the infantry fight of to-day demands the immediate and complete pushing forward of all troops intended for the attack, *i.e.*, the immediate deployment of all the troops into a single, shallow, strong shooting

line, without any supports and companies of the second and third line in close order. I think quite the contrary. The early battles of the South African war prove that a position which has not been fully reconnoitred demands a sparing deployment of the firing line, in view of the power of modern firearms. Just as in section II., 22, of the German regulations, stress is laid on the words "economical," and "without haste." If the principal question in infantry tactics be that of distribution in depth as against the extension of the front, one must repudiate absolutely any plans which would require the immediate and complete absorption into the front line of all the troops intended for the assault. The importance of distribution as regards depth stands by no means in direct contrast with the wider frontage required by single units, or, more correctly stated, the prolongation of their fronts. The frontage of the troops furnishing the first line of attack can easily be spread out and thinly held in order that others may be kept behind in good order, available for flanking movements.

A "prolonging movement," or "movement to a flank," cannot be carried out in European warfare by troops already launched in the attack. Such can only be done by troops kept fresh in rear and in good order. The advanced lines of the British failed, not because they had not enough men, but because they were led into action in an impractical manner and in unskilful formations, and because the troops following them from the rear absolutely misunderstood that their duty was to serve as a "gradually increasing support" for the firing line. Quite a large number never fired at all, and deluded themselves with the idea that they could overawe the enemy and cause him to retire by merely pressing on in their advance. Instead of coming forward into action with their rifles, they merely came forward with their legs.

In view, then, of the increased effect of modern firearms, one gives one's vote for the increased frontage of single units, without abating in the least from the principles of distribution as regards depth. The question "distribution in depth or extension in breadth" is therefore a quite unnecessary problem to propound. The most important question of modern infantry tactics should not be approached in such a spirit. The proper way to put the question in my opinion is this: "How can we distribute to the best advantage the principal fighting portion of infantry, namely, the rifleman, in view of the increased efficiency of modern firearms, in the various kind of country which exist, and what steps can we take so that their fire may be put to the maximum advantage?"

There can be no doubt that the non-success of the British in attack was due to the faulty and impracticable way in which their shooting lines advanced and fought.

13. DENSE AND OPEN SHOOTING LINES.

The British firing lines, considering the open nature of the country, were much too closely arranged.

In these close formations the riflemen were neither able to take proper advantage of cover, nor to use their weapons in such a manner as to bring about an effective fire at medium ranges. They suffered in these close formations far more losses passively, than they actively inflicted on the enemy.

Whilst it is the object of the present commander of our School of Musketry in Germany, Colonel Kügler, to secure 5 per cent. of hits of the ammunition expended at medium ranges, and where shooting lines are equal to put from 25 to 35 per cent. of the enemy out of action, all that the British accomplished against the Boers, infantry and artillery combined, was 3·6 per cent. at Magersfontein, 1·5 per cent. at Colenso, and 7·5 per cent. at Spion Kop.

It is clear that results from practice-ranges can scarcely ever be determined with anything more than approximate accuracy. In the meantime the losses of the Boers were all too few, compared with the average for years past in Germany at medium ranges. If, when considering the losses of the Boers, one takes it for granted that only a third were due to artillery fire, then the percentages of results achieved by the British infantry would be, at Magersfontein 2·4 per cent., at Colenso 1 per cent., and at Spion Kop 5 per cent. Even this high estimate would only be a fifth of the German minimum of 25 per cent. The insufficiency in training of infantry in firing under service conditions was quite clear from these results. The smallness of the hits was, according to several accounts, due not alone to insufficiency in marksmanship, but also to the dense formations of the men, which prevented them making full and free use of their weapons, especially when lying down, while the losses amongst troops close to one another rapidly increased, and fire discipline suffered in proportion. Every endeavour to fight the opponent by means of the regulation volley failed of itself. The din of battle made fire control almost an impossibility. The British infantry soldier, trained to independent fire neither by regulation nor by practice, fired generally haphazard at the heights where he expected the enemy was.

The impossibility of recognising the enemy and finding him out in the country mentioned in so many British accounts, suggests the inference that the eyes of officers and men were untrained for seeking out suitable objects to fire at, at medium and long ranges. The quick identification of heads and shoulders at medium and more distant ranges, the speedy discovery of batteries half and wholly under cover, by means of the eye and the glass, was shown to require a tremendous amount of practice. The real significance and the great use of such exercises is still insufficiently appreciated by us Germans. The practices in these exercises could easily be combined with judging distance and field training, and when systematically carried out would certainly lead to good results. It is, in fact, astonishing, the progress which the human eye can make by continual practice in such matters.

The whole of the success in action against artillery depends on the officer not only identifying the object himself personally with the greatest celerity, but also in being able to make it apparent to the eyes of his men. It is only when men are trained and practised to follow the movements of section and group leaders with their eyes at ranges up to at least 1,500 metres, that success against artillery can reasonably be anticipated. One has only a few minutes at one's disposal to overpower the batteries aimed at with one's fire, or one becomes overwhelmed instead by their quick fire.

The British firing lines were often ranged so closely together in the earlier engagements, that they were in all probability only

following the formation laid down in Section XLVIII, 1 and 2, of the British Infantry Drill, where an advance of a section in extended order without intervals is recommended. At times, too, they were observed in places to be three or four ranks deep. One is not exaggerating when one maintains that such a formation, especially when it follows the opening of a fight and the movement to attack over open country, has received its final death-blow by the Boer war.

Still, the time has not quite yet come for saying that open firing lines are on all occasions more advantageous than dense ones, or for declaring oneself absolutely in favour of this or that formation.

In open country, where there is no cover, the absolute losses of dense firing lines are greater, not so the relative losses. The percentage of losses remains the same. For a dense firing line must always be able to beat a firing line with open intervals, for the fight in such cases resolves itself to one between a superior foe and an inferior one.

But the answer is this: The situation resolves itself at once to the advantage of the open firing line, as soon as the latter succeeds in filling up its gaps at the right moment. It is easier to bring up supports into an open firing line than into a dense one.

Further, as a rule, the shooting power of a firing line can be more effectually brought about by filling up gaps gradually than by doing what seems more simple—taking up a position for firing all at once in a dense line. The latter can only be accomplished, in view of the narrow formations in which one moves forward, under possibly heavy losses.

A dense firing line suffers losses, as already pointed out, in proportion to the density of the space occupied. For example, suppose a dense line, in a given space, contains 140 men; a shallow line in the same space would contain 70 men. Of these in a given period of time there would be hit of the former 30; of the latter 20. The moral effect of the greater number of losses is all the more felt by the men who are lying near to one another, than the smaller number of losses in the long line of men lying down at greater intervals.

A really moral disintegration of the troops is therefore easier to bring about when firing against dense shooting lines, in which the losses mount up in a confined space. Loss of fire discipline and lessening of efficiency will occur with other troops, as it did with the British, though, perhaps, not so quickly. It is, therefore, false to hold the principle "effect goes before cover" responsible, in open country, for the advance of dense firing lines. *More open intervals, in big actions and in small, are unmistakably demanded by the effect of modern firearms.* The art of leadership must, therefore, lie in preventing the intervals becoming too great.

In the endeavour to secure the uninterrupted advance of dense firing lines, the object would not be achieved, and would probably end in annihilation. The less dense in formation that the shooting lines are the more certain are they to develop marksmanship in a strong degree, and, therefore, greater efficiency than if the opposite were adopted. The filling-up of the firing lines must be on a far less systematic plan than formerly. Every regularity in this is of the worst augury, in face of an observant defender, who only waits for a favourable moment, as the Boers did, for pouring in his magazine fire. The more irregularly it is carried out, the more surprise will it occasion and the surer will it lead to victory. It will hardly ever take place by means of an uninterrupted advance, and it will seldom be attained by long

rushes in quick succession. It must be carried out in small detachments (as a rule, best in sections), in open formation, in irregular timed rushes, suitable to the ground, with pauses varying in duration, and in the most independent manner, according to the nature of the country and the circumstances of the particular case. Only an iron discipline and systematic training in peace time will prevent under all circumstances the premature opening of fire, which tends to compromise the front line of the reinforcements hastening up in small units.

14. FRONTAGES.

The advantages of the use of extended firing lines in open country leads to the conclusion that the frontages to be allotted to tactical units by regulation should be increased—a measure which is in itself demanded by the tremendous effect of magazine fire. An increase of the frontage for a company to 130 metres would be sufficient for this purpose.

A battalion would, therefore, require a frontage of 400 metres. The frontages of the larger units could not be increased in the same proportion. The increased offensive power of the front line allows not only a greater extent of front when first deploying, but also an economical distribution of units, which helps to keep troops in reserve, and observe the principle of communication from rear to front, and saves the troops for flanking movements. *The frontage we have adopted, even when the intervals are at their greatest, is quite sufficient for beating off frontal attacks, thanks to the increased efficiency of modern firearms.*

The proper frontage, accordingly, for a regiment is 700 metres, and for a brigade 1,500 metres. The normal distance hitherto fixed by regulation in Part II., 115, is from 1,000 to 1,200 metres. It should here be remarked that the Russians and the French (doubtless, also, in consequence of the Boer war) have, in view of the increased power of modern firearms, increased their frontages, the frontage for a Russian company being fixed at 140 metres, for a battalion 280 metres, for a regiment 700 metres, and for a brigade 1,050; and the frontage of a French company has been set down at 150 metres, a battalion 300 metres, a regiment not more than 700 metres, and a brigade not more than 1,500 metres.

NOTE.—The author's remarks on "The Advance by Rushes," "The Summary of Lessons Derived," "Necessary Changes in the Drill Book," and his concluding remarks are reserved for our next issue.—Ed.

A NEW TACTICAL SYSTEM.

By Rear-Admiral JACOB BÖRRESEN, Chief of the Norwegian Naval Staff.

THE most important objects to be obtained by a naval tactical system are:—

1. To enable the commander-in-chief to concentrate an overwhelming fire on part of the enemy.
2. To give the admiral the opportunity of making a sudden and unexpected attack on part of the hostile fleet by an overwhelming force of his own, for the purpose of torpedoing, ramming, or bringing confusion into the enemy's lines, and to force him to faulty manœuvres.
3. To prevent as far as possible the same from happening to himself.

In order to obtain these advantages by a tactical system, I have studied the movements of a squadron divided—as the French have lately done—into two parts, operating in a way separately, but at the same time so linked together by certain simple rules as to make it comparatively easy for the commander of both to direct their joint movements.

Such a formation will be an open formation of semi-independent divisions, by which the head, rear, or wing of the hostile line can be enveloped, to gain the advantage of cross-fire, and it will, at the same time, give the commander-in-chief an opportunity, when his order is once formed at the right distance and in the right direction from the enemy, to let one of the semi-independent divisions make a sudden dash for a part—head, rear, or wing—of the enemy, while the other division is kept in regular formation, ready for any opportunity that might offer itself by faulty manœuvres on the part of the enemy. This division, which in the meantime is using its guns under the most favourable circumstances, will have to be ready to support the assault of the first division by another dash if the support of its guns should not prove enough.

The rules to be laid down must evidently be such as to prevent one division, during these quick movements, from getting into the fire of the other one, or from otherwise distracting him, and also to prevent any one of the divisions from getting isolated from the other.

The question is now: Is such a detached formation practical? Is it easy to keep, and does it fulfil the third requirement of a tactical system—*i.e.*, not to give the enemy the opportunity of doing to us what we wish to do to him? In short, is it possible to prevent the enemy from crushing one of the semi-independent divisions before the other can come up to its succour?

To illustrate the matter, let us consider two smaller battle-ships fighting a larger one of about double the size, but with practically the same maximum speed; let us consider these two smaller vessels operating on the circumference of a circle, the centre of which is the larger ship. Let us also lay down the rule that the two smaller ships are to consider each other so linked together that each of them always must be at the outer end of a radius from the hostile ship as a centre, and forming, with the radius to her companion, an angle of 90° . (See Fig. 1, where *C* is the hostile ship, *A* and *B* the two smaller ships, *A* with the commander of both on board).

The circle round the enemy I propose to divide into eight spheres or positions, for signalling purposes, namely:—

- I. The octant north of the enemy.
- II. The octant north-east of the enemy.
- III. The octant east of the enemy.
- IV. The octant south-east of the enemy.
- V. The octant south of the enemy.
- VI. The octant south-west of the enemy.
- VII. The octant west of the enemy.
- VIII. The octant north-west of the enemy.

In order to study whether it is practical or easy enough for the two ships, in a running fight, to keep such formation as is described above, we must make it clear what observations of distance to enemy or consort, or what measuring of angle between enemy and consort, must be made on board each ship in order to keep the formation, and what duties in the way of manœuvres will the result of these observations impose upon each commander. And, further, are these duties in the way of manœuvres so clear and easy that a commander can be expected to attend to them with a fair chance of success during a fight.

Given the necessary speed of his vessels, it is clearly the duty of every commander-in-chief to select the distance at which he wants to fight. As a consequence, the duty for ship *A* to choose the circle—i.e., the distance from *C*—for her manœuvres is nothing new, and to give this distance—the radius of the circle—by signal to *B* is not a new duty either, and it is only for control. For if *B* (Fig. 2) has the general order to measure the angle between the two lines drawn from herself, one to her consort *A*, and the other to the hostile ship, and to keep this angle at 45° , and she does it, she will always be at the same distance from *C*, on the same circle as *A*, provided that *A* also keeps this angle from her position between her consort and the enemy—we will call it the "*Fleet Angle*"—at 45° .

That the "*fleet angle*" must be observed from both ships, and be kept at 45° by both of them will be seen from Fig. 2. *B*'s fleet angle is 45° , whether *A* is in position *A*¹ or position *A*². The formation is right only when the fleet angle of *both* vessels is at 45° .

Now, is this keeping of the fleet angle a difficult thing to do? Or, rather, is it so difficult that already from this reason the system has to be given up?

Of course, here is no question of great exactness, no question of single degrees. It is only a question of convenient cross-fire, equal distance from the enemy for mutual support, an open formation, the laws of which guard one ship, or part of a squadron, from getting into the fire of the other ship, or part, and still keep both ships, or

parts, in the hands of the commander-in-chief without much signalling, or even without signalling at all; a question of keeping apart and still binding together.

Satisfactorily, of course, the idea can only be tried by actual experiment with three ships; but the following considerations may make success of experiments more or less probable, may decide, in short, whether they are worth carrying out or not.

Let us first consider the case of a running fight on a straight course, all three ships having about equal maximum speed, still the two smaller vessels, *A* and *B*, having rather the advantage.

A and *B* have taken up their positions, according to orders from *A*, in the octants II. and IV. respectively. *C* is running east, with a speed of, say, 14 knots. (See Fig. 3A.)

In order to keep their respective positions in this triangle, *A B C*, *A* and *B* have really, theoretically, each of them only to keep *C* on the same bearing and at the same distance.

But, from various reasons, one of them—*A* or *B*—may fail to do so, or may want to change position, and then the keeping of the formation requires that the other ship shall make a corresponding move, either by edging towards, or away from, her consort, either on the same circle, or by changing the circle—*i.e.*, changing her distance from *C*—in order to get on the same circumference as her friend.

Neither *A* nor *B* must, therefore, rely solely on observation of distance and bearing of *C*; they must also observe the fleet angle and keep it at 45° .

For control it is advisable now and then also to measure the distance to one's consort to ascertain that she is on the same circle, *i.e.*, at the same distance from the enemy.

Having found the distance between the ships *A* and *B*, Table 6 will give the distance that one ought to be from *C* in order to be on the same circle as one's consort, with both fleet angles at 45° . If this control measurement gives another distance to the enemy than the one really existing, it is necessary to approach or get away from the latter until the distance taken out of Table 6 is attained, and at the same time the fleet angle is kept at 45° .

In Fig. 4, *B*, in position *B*¹, has her fleet angle right, but suddenly discovers by measuring the distance to her consort, that it is too great. She will then have to edge out from *C*, keeping her fleet angle at 45° , until she has reached the position *B*².

A ought, of course, to have signalled her new distance, but she may have been prevented from doing so.

But this is only for control. Ordinarily, the flag-ship has also to observe and to keep the fleet angle and to signal distance or position if she wants to change either, and thereby disregard the keeping of the fleet angle for a time, leaving that duty to her consort alone.

As long as *C*'s course is straight (see Fig. 1) and speed uniform, the courses of *A* and *B* will also be straight, both, however, edging some degrees towards each other if the fleet angle should fall below 45° ; edging out from each other if the fleet angle should rise above 45° .

If, as mentioned above, *A* should wish to manœuvre independently of the fleet angle, she ought to inform *B* of it by signal—"I am increasing distance to . . . metres" (or diminishing, as the case may be); or, "I am changing position towards" If, on the other

hand, *B* is prevented from keeping the fleet angle, she ought to signal to *A*, "I cannot keep the fleet angle," on which this duty must devolve on *A*; one consort must help the other.

But in keeping the fleet angle, or, rather, correcting it while keeping the same distance from *C*, it must be remembered that the movements towards or from the consort—*B*'s movements from or towards *A*, as well as *A*'s movements from or towards *B*—must be made on the circle.

As a consequence, when *A* or *B* move towards *C*'s course line, of course, to correct the fleet angle, their speed must be increased, if they happen to be on the semi-circle round *C* which lies in the direction of *C*'s movements, but decreased if they are behind *C*. (See Figs. 3A and 3B.)

When they move away from *C*'s course their speed must be decreased if on the semi-circle in front of *C*, but increased if behind *C*, or, in other words, *they must increase speed to move forward on the circle; slow down to move backward.*

This will easily be seen by reference to Fig. 5, in which the larger ship, *C*, moves along with her circle in the direction *C*¹, with speeds varying from 5 to 23 knots—these speeds represented by the movement of the "tactical circle" in half an hour.

Any ship that wants to keep up the same position—I. or II. or III., etc., on *C*'s tactical circle, must evidently keep up the same speed and course as *C*. If, however, a ship wishes to change direction from *C* without altering the distance—that is, wants to move on *C*'s tactical circle—she will have to take up a course different from *C*, and at the same time vary her speed. Ship *A*, in position VIII. (Fig. 5), on the tactical circle, wishing to get into position I., must steer out from *C*, and increase her speed. The figure shows—and the values for the different speeds of *C*, and positions, are put down in Tables 1 and 5—that, to get from position VIII. to position I., you have to edge out from *C*'s course an angle of 10°, provided *C*'s speed is 5 knots, and you wish to get into the new position in half an hour. Your speed must at the same time be increased to 9 knots. (See Table 5.)

In case *C*'s speed is 12 knots, you will have to edge out 5° from *C*'s course and increase your speed to 15.9 knots, etc.

From these Tables 1 to 5 will be seen that in case *C*'s and your own speed is 12 knots, and you wish to—

Change from position VII. to position VIII.: Edge out 16°; increase speed to 14.1 knots.

Change from position VIII. to position I.: Edge out 5°; increase speed to 15.9 knots.

Change from position I. to position II.: Edge in 5°; increase speed to 15.9 knots.

Change from position II. to position III.: Edge in 16°; increase speed to 14.1 knots.

Or, as a general rule—

To move forward on the tactical circle of an opponent, you have to increase your speed by one third and alter your course about half a point if you are on or near her beam; increase your speed by one-sixth and alter your course about one point and a half if you are on her bow or quarter.

From the same tables is found:—

To change from

Position III. to position II.: Edge out 20° ; slow down to 11.2 knots:

Position II. to position I.: Edge out 11° ; slow down to 8.2 knots:

Position I. to position VIII.: Edge in 11° ; slow down to 8.2 knots:

Position VIII. to position VII.: Edge in 19° ; slow down to 11.2 knots:

if your speed is 12 knots, and you wish to make the change in half an hour.

If you wish to change from one position to another in a quarter of an hour, edge in or out double the number of degrees, and slow down to half of the speed. But for an interval of half an hour the following general rule can be established:—

For moving backward on the tactical circle, decrease your speed by one-third and alter your course one point if you are near your antagonist's beam; decrease your speed by one knot and alter your course two points if you are on his bow or quarter.

These tables—1 to 5—are of importance, not only for finding the change in course and speed for corrections in the fleet angle, but also for directing the movements of the vessels—or divisions—to other than the nearest positions—for instance, to the opposite side of the circle. The tables do not take into consideration, however, that by following the indicated course, a ship, going from one position into another, may get too near to, or even collide with, the hostile ship in the centre.

But when a ship does not wish to change position on the circle, and her fleet angle is 45° , then her only and simple rule is to keep the same course and the same speed as her antagonist—that is, as long as she wishes to continue the artillery duel. If *C* ports or starboards her helm, *A* and *B* must do the same, without waiting for orders from the flag. (See Fig. 6.)

But if the commander-in-chief on board *A* finds that he has the worst of it in this duel, he will try close action—for example, with the torpedo. We will presume that *B* and *A* can fire torpedoes right ahead and 45° on the bow, and that the common speed of all three vessels is 15 knots; distance between *C* and the smaller vessels, 4,000 metres.

For the weaker side, who counts on quick decisions and sudden changes for victory or escape, it is evidently of great interest to keep the speed as high as possible; the stronger will rather keep the speed low.

For the same reason the commander of the smaller vessels will always try to get one of his ships (*B*, Fig. 7) on the bow of the larger vessel. He will then order *B* to turn round under port helm to try her torpedo, and he will turn himself at the same time towards *C*, to assist *B*, as well as to prevent *C* from turning northwards, and also to intimidate *C* or paralyse him in his decision.

If *C* continues her course, *B* will be within torpedo distance of her in less than 4 minutes.

If *C* turns with starboard helm, she will risk getting within torpedo range of both *A* and *B*.

She will therefore—it being in her interest to continue the artillery duel—most likely turn towards south, from *A*, under port helm.

The distance between *C* and *B* will most likely have been reduced to 3,000 metres, and the positions of the respective ships (as shown in Fig. 8) nothing improved for the smaller vessels; but still the formation has given them—and still gives them—the advantage of cross-fire and the chance that their sudden move may paralyse the opponent for a couple of minutes; and three minutes' hesitation may be fatal to her.

In order better to understand the necessary co-operation between the two smaller units, *A* and *B*, in their manoeuvres with *C* as a centre, we will consider them both pivoting on two hoops (see Fig. 9), sliding one on each end of an immense beam, which they drag along with them, and which must always be swung—by *A* round *B*, or by *B* round *A*—so that a line drawn perpendicular on the middle of the beam runs through *C*.

As a consequence, when *C* runs down on *A* (see Fig. 9), *A* must sheer away from her, and *B* must run up towards *C*'s wake to swing the beam in the right direction.

If *C* runs down between the two, the beam must be swung and dragged one way or the other—toward *B* or toward *A*—so as to make *C* run over the beam in this perpendicular; and the two smaller vessels ought, at the same time, to approach each other, so that the running over the beam cannot be made without risks, on account of *A*'s and *B*'s torpedoes.

When *A* or *B*, from some reason or other, such as want of speed, is prevented from keeping the proper distance from *C*, the other one of the two consorts must slide with her hoop towards—or out from—the middle of the beam in order to keep *C* in the perpendicular, which is the same as to keep the fleet angle at 45° . And so on. But let us say at once: The present tactical system will always favour the faster units rather than the slower.

Having by this hoop and beam simile made the necessary co-operation between the two smaller units more clear, we will proceed to consider the case when *C*'s speed is higher—for example, 16 knots—than the speed of *A* and *B*—which, say, is only 14 knots—the effects of the artillery on both sides being about equal.

A (Fig. 10a) gives orders by signal to *B* to take up a position in octant III., and takes herself a position in octant I. *C* chases *A*, gradually decreasing the distance from her. *B* then evidently—to keep the perpendicular on *C* (that is, the fleet angle at 45°)—must edge down on *C*, and *A* must not run faster than to allow *B* to keep her fleet angle; that is to say, if the fleet angle falls below 45° , she must slow down; if it rises above 45° , she must port her helm (see *C*¹), to get away from *C*. Between the two consorts there must, on the whole, be a great deal of sympathy and understanding, so that they always meet each other half way.

In position *A*'' the distance has gone down to 2,900 metres. Of course, here might be a chance for *A* to turn round for a torpedo attack. But, having already treated that case, we let *A* port her helm still more to keep her fleet angle, and at the same time get away from *C* and get into position *A*'''.

In order to keep the perpendicular on *C*—or her fleet angle—*B*, as soon as *C* has passed her, must starboard her helm and run up towards *C*'s wake.

There are now 3 courses open to *C*.

1. She may run down on *A*'s port side, to try to grapple with *A* alone. *A* then ports her helm (see Fig. 10 *a*), and *B* continues in *C*'s wake, taking care of her fleet angle.
2. She may run down on *A*'s starboard side (see Fig. 10 *b*), to separate the two companions. *A* takes up a course perpendicular to that of *C*; *B* swings to starboard to keep the perpendicular on *C*. Or, *A* steers the opposite way—towards *B*—to prevent *C* from getting between them.
3. She may turn round on *B* (Fig. 10 *c*); *B* and *A* then also turn round, *B* edging out from *C*'s course in order not to have to deal with *C* single-handed; and *A* steers into *C*'s wake.

We will now consider the case of two squadrons operating against each other, each one consisting of eight battle-ships, and both coming up in line ahead; speed, 14 knots; distance between each ship, 2 cables.

The white squadron, *AB*, coming from the south, divides, on sighting the enemy, into two divisions, *A* and *B*, *A* giving orders to *B* to take up position II., with the head of the hostile squadron as a centre (see Fig. 11.); radial distance to be kept from the enemy at 5,000 metres.

The black squadron, *C*, steers for the gap between the divisions, with the old-fashioned idea of cutting off one from the other. *C* is rather the stronger in artillery; *A* and *B* have a somewhat higher speed than their opponent.

B immediately takes up a north-easterly course, and steams as fast as she can to get ahead of *C*, towards her position; whereas *A* quite leisurely steers northward and then eastward, to take up position IV. In about 40 minutes the formation is made, and the two divisions, *A* and *B*, steam along on a course parallel to *C*, and with the same speed, each division commander taking well care of distance and fleet angle.

Now, why did *A* select for his divisions positions ahead of the hostile fleet? Because, for the lighter squadron, which counts on sudden changes for victory, escape, or the annihilation of both fleets, these positions give better opportunity for torpedoing or for an unexpected attack on the head of the hostile column, or of producing a *mêlée*, by radial movements towards the centre. They give better protection against the same from the part of the enemy. They give you the opportunity of more rapidly changing position from one sphere of the circle to another (see page 329), by chordal movements.

If *A* and *B* are the swifter, and, at the same time, rather the weaker in artillery, the wish of *C* to fight will make *A* and *B* keep these positions. But, still, *C* might waver in his resolution and wish to turn. If *A*, therefore, has torpedo craft at his disposal, or swift cruisers with strong torpedo armaments, they ought to be disposed at a safe distance in the enemy's wake (somewhere about *D* in Fig. 11), to prevent him from turning.

If, on the contrary, *A*'s and *B*'s positions have to be taken up in rear of the hostile fleet, the torpedo craft, or cruisers, ought to be

directed somewhere ahead of the enemy, from where they will try to force him to turn.

One of the questions which at present presents itself is this:—In what order ought the divisions *A* and *B* to be formed?

I take it for granted that while steaming towards their positions, the division commanders will keep the line ahead which they had before parting. But when the new formation is once formed?

Theoretically, it seems to me that an oblique order, perpendicular to the radius from *C*, would be the most correct one. It prevents one ship from covering another; and, seen from *C*, such an order would be the most open one, which certainly is a disadvantage to *C*, and, accordingly, an advantage to *A* and *B*.

Anyhow, there can be no doubt that the formation, in any position near abeam of *C*, ought to be line ahead, and in any position in *C*'s wake, or ahead of him, ought to be line abreast.

As a rule, of course, this question must be left to the division commanders to decide; but by what considerations ought they to be guided, outside those above mentioned?

To discuss the matter, we will return to our hoop and beam simile.

Fig. 12 shows the beam ($a-b$) and the hoops (a^1-b^1), with their pivots, on the top of which turn oblong pivots for the individual ships.

It will easily be seen from this figure that in order to swing the beam or slide the hoops, to keep the fleet angle at 45° , it will be most convenient for both divisions to make the necessary oblique—correcting movements by simultaneous veerings of all the ships together, and then, afterwards, gradually swing the line into a direction perpendicular to the radius. The movements will then be the shortest and save most time—and to save time in a manœuvre is equivalent to increasing the speed.

Let us now follow the progress of the battle.

It can hardly be denied that with the respective positions of the squadrons as shown in Fig. 11, the head of the hostile column, *C*, will have to bear the brunt of the battle—so much so, may be, that *C* will find that he must change into line abreast. (Fig. 13.)

Suppose that the leading ship of *C* slows down to half speed to get into this new formation, it will take the column of eight vessels nearly a quarter of an hour to get into line abreast, and in doing this it will lose about 3,000 metres of ground.

Seeing this manœuvre, *A* orders *B*, by quick chordal movements, to get into position IV., and chooses herself position VI., by two simultaneous sheers of 180° , which manœuvre enables her to concentrate her whole fire on *C*'s right wing.

Or *A* can order *B* to turn round and attack the head of *C*'s column (see Fig. 14), in line ahead, the division commander leading it into close action just while *C* is changing her formation—an attack which most likely will lead to confusion in *C*'s line.

We will not continue the present examples any longer; they will be more or less repetitions of the examples with three ships: but what has been shown, I hope, will have pointed out the advantages of semi-independent divisions operating from positions on a circle round the adversary, and linked together by certain rules above laid down. The present article is not meant to be an exhaustive treatise on the subject, but only an introductory one for a later discussion of the system.

There remains now to be considered the effects on the evolutions of *C* adopting the same formation as *A* and *B*, or another suitable order—for example, the triangular one, with the point or wedge directed towards the gap between the two divisions.

Having seen that the leading ship of his column (Fig. 11) suffers too much by keeping line ahead, *C* divides his column into two divisions, to which he gives orders to operate as detached semi-independent divisions, with *B* as centre (Fig. 15).

It is evident that the tactical situation has now become a more complicated one, which gives room for a good deal of initiative and enterprise from both commanders-in-chief, as well as from the division commanders.

A and *B*, who have the advantage of speed and positions in the front semi-circle, may be able to gradually work round *C*¹, so as to have the division isolated from *C*², and under fire from both *A* and *B*.

Or *C*¹ and *C*² may try to do the same to *B*, but they will hardly succeed on account of their positions and their lower speed.

Or *B* and *A* may make a sudden chordal movement round *C* (arrows *a* and *b*, Fig. 15), movements that again can be met by *C*¹ turning 90° towards *C*², and *C*² edging down on *B* (arrows *c*¹ and *c*²), and so on; but the advantages—circumstances otherwise equal—will lie with him who commands the highest speed. Speed is a great tactical advantage; but the system also points towards an advantage in distributing a given offensive power into several smaller units—within certain limits. The sea-speed of each unit must not suffer, nor the stability of the gun-platform, nor the radius of action.

The wedge system of *C* (Fig. 16), which may be resorted to if *C*'s speed is very much lower than *A*'s and *B*'s, will give rise to the same circular, chordal, or radial movements by *A* and *B*, gradual or sudden, as described before, to get one of the wings of *C* under the concentrated fire of both divisions—movements which must be met by twisting the triangle round so as to keep its apex still in the gap between the two divisions.

TABLE I.

From position I. (or V.) to:—

Enemy's Speed.	II. (or IV.)		III.		IV. (or II.)		V. (or I.)		VI. (or VIII.)		VII.		VIII. (or VI.)	
	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.
5	10°	8.9	27°	11.7	46°	12.7	65°	11.8	82°	9.3	94°	5.5	52°	2.0
6	9°	9.9	25°	12.5	43°	13.4	61°	12.3	77°	9.5	84°	5.5	36°	2.6
7	8°	10.9	24°	13.5	41°	14.2	57°	12.9	71°	9.8	74°	5.6	26°	3.5
8	8°	11.9	22°	14.4	38°	14.9	54°	13.4	66°	10.1	65°	6.0	21°	4.5
9	7°	12.9	21°	15.3	36°	15.8	50°	14.1	61°	10.6	57°	6.5	18°	5.4
10	7°	13.9	20°	16.3	34°	16.6	47°	14.7	57°	11.1	50°	7.0	15°	6.4
11	6°	14.9	19°	17.2	33°	17.5	45°	15.5	52°	11.7	44°	7.8	13°	7.4
12	5°	15.9	18°	18.3	31°	18.4	42°	16.2	43°	12.3	40°	8.5	11°	8.3
13	5°	16.8	16°	19.1	29°	19.3	39°	16.9	45°	13.0	35°	9.3	10°	9.5
14	4°	17.8	15°	20.0	27°	20.1	37°	17.7	42°	13.7	31°	10.2	9°	10.3
15	4°	18.8	15°	21.0	26°	20.9	35°	18.6	39°	14.5	28°	11.1	8°	11.3
16	4°	19.8	14°	22.0	25°	21.8	33°	19.4	37°	15.4	26°	12.0	7°	12.3

TABLE 2.

From position II. (or IV.) to:—

Enemy's Speed.	I. (or V.)		III.		IV. (or II.)		V. (or I.)		VI. (or VIII.)		VII.		VIII. (or VI.)	
	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.
5	53°	2.0	30°	7.6	57°	9.1	83°	9.2	109°	8.1	138°	5.7	180°	2.6
6	35°	2.7	27°	8.4	52°	9.6	78°	9.4	102°	7.8	130°	5.0	180°	1.6
7	26°	3.5	24°	9.4	47°	10.3	71°	9.8	95°	7.7	120°	4.4	180°	0.6
8	21°	4.4	21°	10.3	43°	11.0	65°	10.1	87°	7.6	108°	4.0	0°	0.4
9	17°	5.4	19°	11.2	40°	11.8	60°	10.6	80°	7.8	93°	3.8	0°	1.4
10	14°	6.4	18°	12.1	37°	12.5	55°	11.0	72°	8.0	77°	3.9	0°	2.4
11	12°	7.4	17°	13.2	34°	13.3	51°	11.7	65°	8.3	64°	4.2	0°	3.4
12	11°	8.2	16°	14.1	32°	14.3	48°	12.4	60°	8.8	53°	4.8	0°	4.4
13	10°	9.3	15°	15.0	30°	15.1	45°	13.1	55°	9.3	44°	5.4	0°	5.4
14	9°	10.3	14°	16.0	28°	16.0	42°	13.8	50°	10.0	38°	6.2	0°	6.4
15	8°	11.3	13°	17.0	27°	16.9	39°	14.5	45°	10.7	33°	7.0	0°	7.5
16	7°	12.4	12°	18.0	26°	17.7	36°	15.3	41°	11.4	29°	7.9	0°	8.5
17	7°	13.4	12°	19.0	24°	18.6	34°	16.1	38°	12.2	26°	8.8	0°	9.5
18	6°	14.4	11°	20.0	23°	19.5	32°	16.9	36°	13.0	23°	9.8	0°	10.5
19	6°	15.4	11°	21.0	22°	20.5	31°	17.8	33°	13.8	20°	10.7	0°	11.5
20	5°	16.4	10°	22.0	21°	21.5	30°	18.7	31°	14.7	18°	11.6	0°	12.5

TABLE 3.

From position III. to:—

Enemy's Speed.	I. (or V.)		II. (or IV.)		VI. (or VIII.)		VII.	
	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.
5	93°	5.4	48°	5.1	139°	5.7	180°	5.8
6	83°	5.5	41°	5.7	132°	5.0	180°	4.8
7	73°	5.6	36°	6.5	121°	4.5	180°	3.8
8	64°	6.0	31°	7.4	108°	4.0	180°	2.8
9	55°	6.5	27°	8.3	93°	3.9	180°	1.8
10	49°	7.2	24°	9.2	78°	3.9	180°	0.8
11	43°	7.8	22°	10.2	64°	4.2	0°	0.3
12	39°	8.5	20°	11.2	54°	4.7	0°	1.3
13	35°	9.3	19°	12.0	45°	5.4	0°	2.3
14	31°	10.2	18°	12.9	38°	6.2	0°	3.3
15	28°	11.1	17°	13.9	33°	7.0	0°	4.3
16	26°	12.0	16°	14.8	29°	7.8	0°	5.3
17	24°	12.9	15°	15.8	26°	8.7	0°	6.4
18	22°	13.9	14°	16.8	23°	9.7	0°	7.4
19	21°	14.7	13°	17.8	21°	10.6	0°	8.4
20	19°	15.7	12°	18.8	19°	11.6	0°	9.4
21	18°	16.6	11°	19.8	18°	12.6	0°	10.4
22	17°	17.5	10°	20.8	16°	13.5	0°	11.4
23	16°	18.5	10°	21.8	15°	14.5	0°	12.4

TABLE 4.

From position VII. to :—

Enemy's Speed.	I. (or V.)		II. (or IV.)		VI. (or VIII.)		III.	
	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.
5	27°	11·8	15°	14·7	30°	7·6	0°	15·8
6	25°	12·6	14°	15·7	27°	8·5	0°	16·8
7	23°	13·5	13°	16·7	24°	9·4	0°	17·8
8	21°	14·5	12°	17·7	22°	10·3	0°	18·8
9	20°	15·5	12°	18·6	20°	11·3	0°	19·8
10	19°	16·4	11°	19·6	18°	12·2	0°	20·8
11	18°	17·3	10°	20·6	17°	13·2	0°	21·8
12	16°	18·2	10°	21·6	16°	14·1	0°	22·8

TABLE 5.

From position VIII. (or VI.) to :—

Enemy's Speed.	I. (or V.)		II. (or IV.)		III.		IV. (or II.)		V. (or I.)		VI. (or VIII.)		VII.	
	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.	Alteration in Course.	Speed.
5	10°	9·0	0°	12·6	15°	14·7	32°	14·8	47°	12·7	56°	9·1	47°	5·2
6	9°	10·0	0°	13·6	14°	15·7	30°	15·6	44°	13·4	51°	9·7	50°	5·9
7	8°	10·9	0°	14·6	13°	16·7	28°	16·5	41°	14·2	47°	10·4	34°	6·7
8	7°	11·9	0°	15·6	12°	17·7	27°	17·4	39°	15·0	43°	11·1	30°	7·5
9	7°	12·9	0°	16·6	12°	18·7	25°	18·3	36°	15·9	39°	11·8	26°	8·4
10	6°	13·9	0°	17·6	11°	19·7	23°	19·3	34°	16·7	37°	12·6	23°	9·3
11	6°	14·9	0°	18·6	10°	20·7	22°	20·2	32°	17·5	34°	13·4	21°	10·3
12	5°	15·9	0°	19·6	10°	21·7	21°	21·2	30°	18·3	32°	14·3	19°	11·2
13	5°	16·9	0°	20·6	9°	22·6	20°	22·0	28°	19·2	30°	15·2	18°	12·1

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Fig. I.

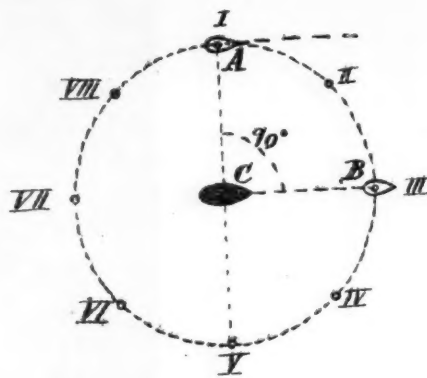
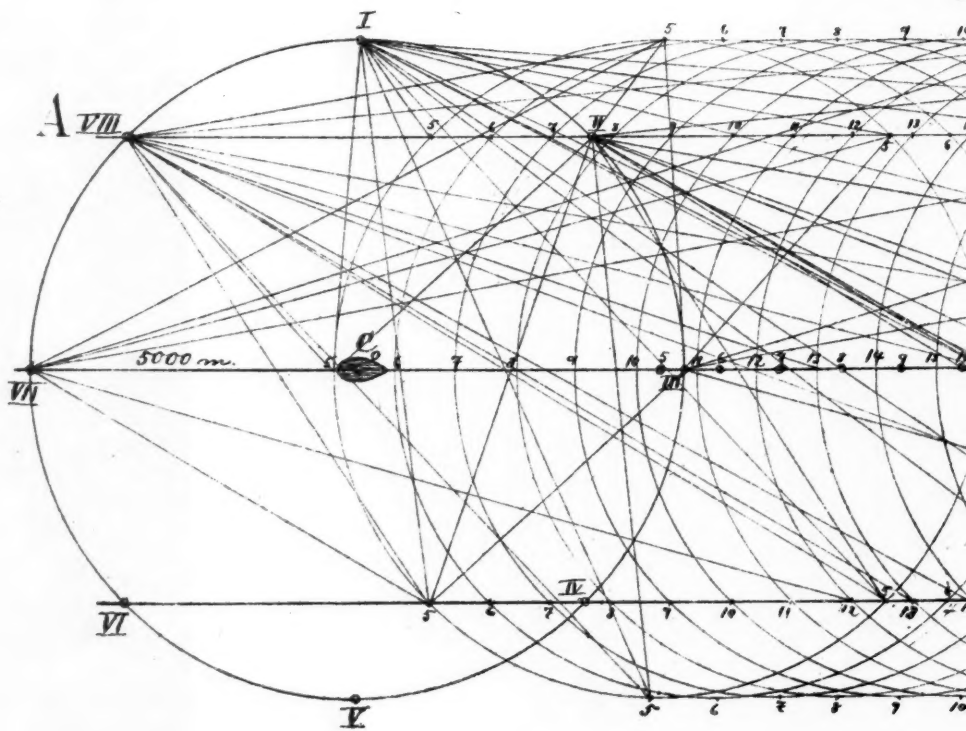


Fig. II.



Fig.



Figs. VI.

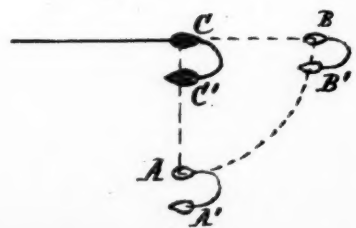
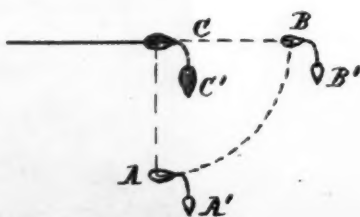


Fig. III. a

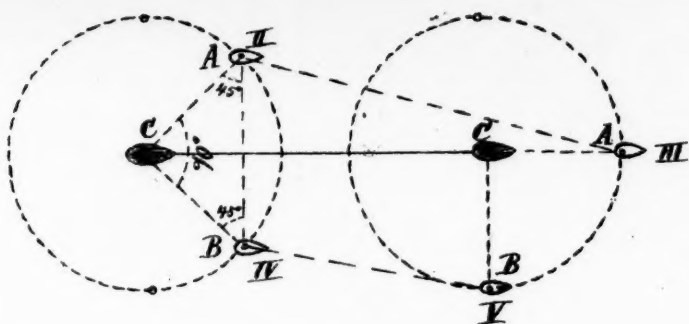


Fig. III. b

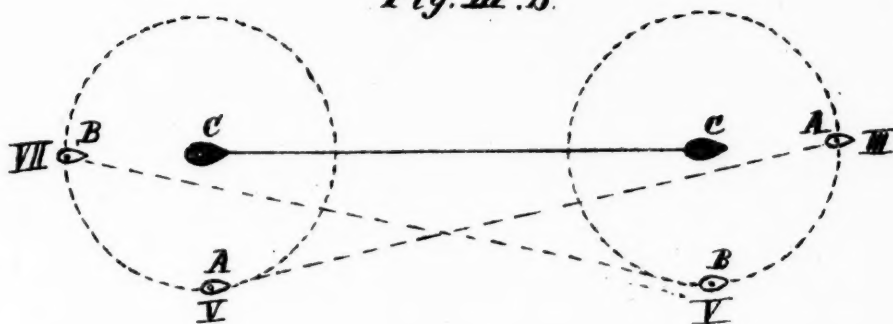


Fig. V

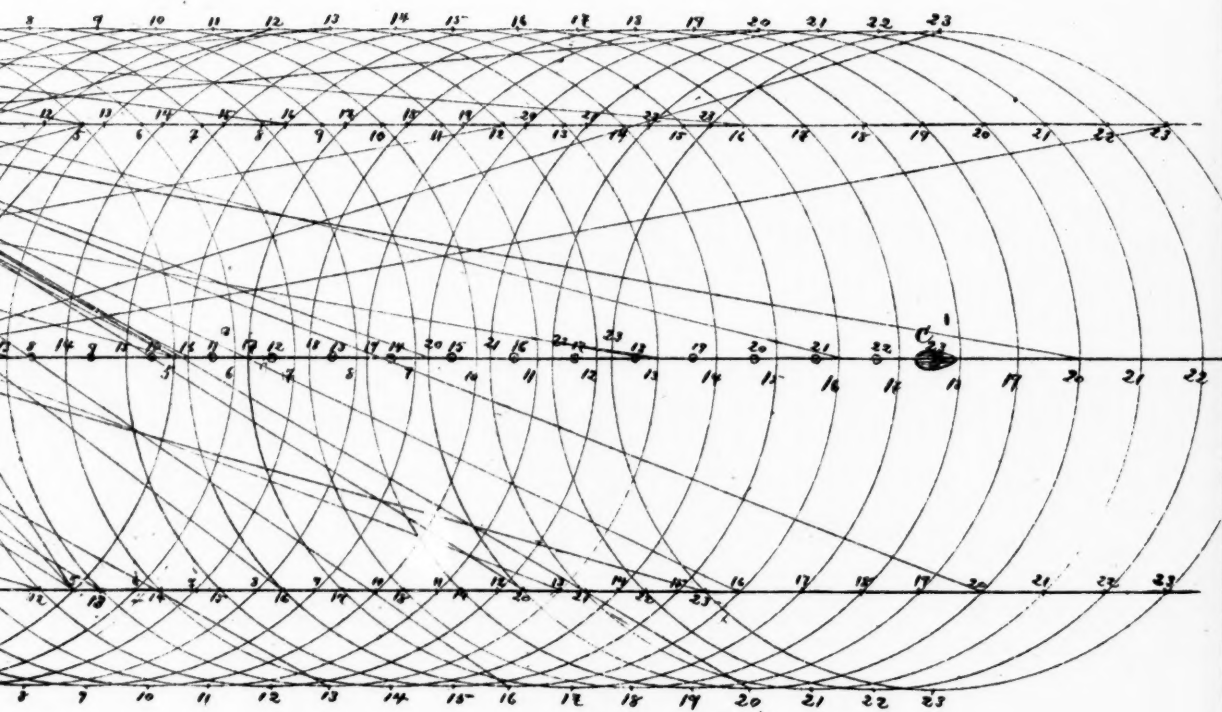
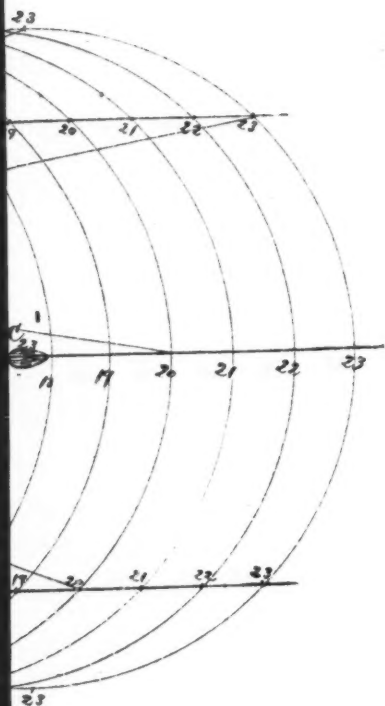
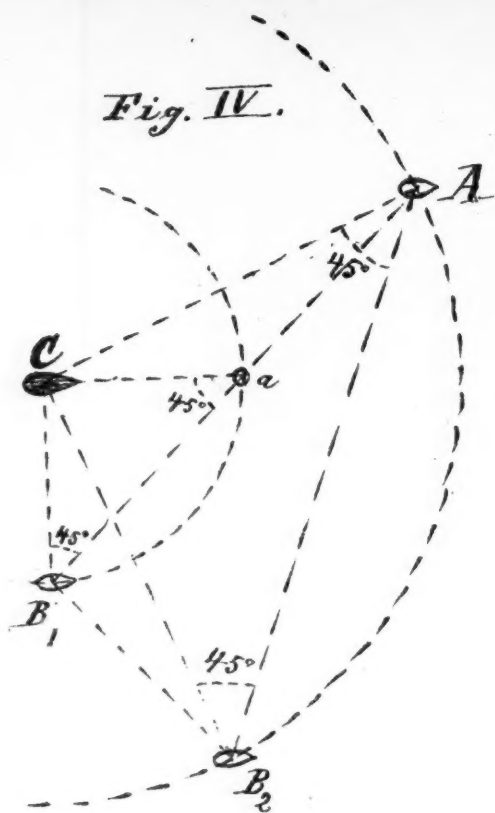


Fig. VII.



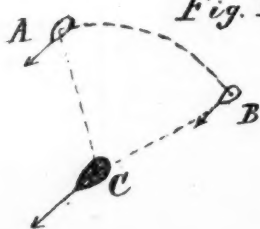
Fig. IV.



$C = 16$
 $A \text{ and } B = 14$
 Interval = 0

VII.

Fig. VIII.



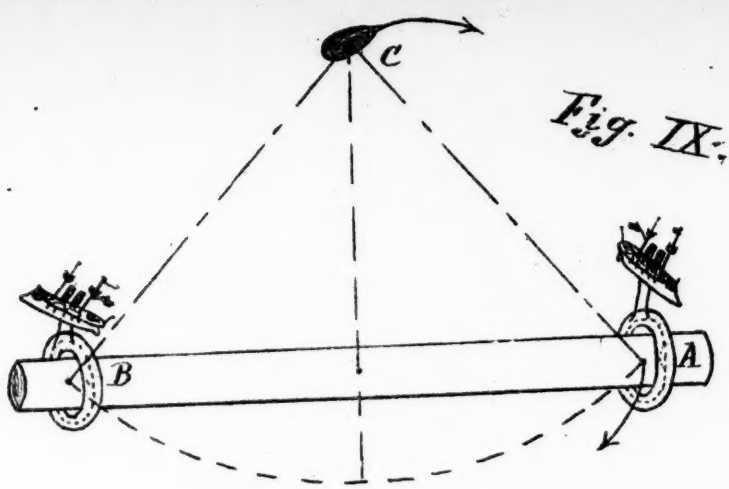
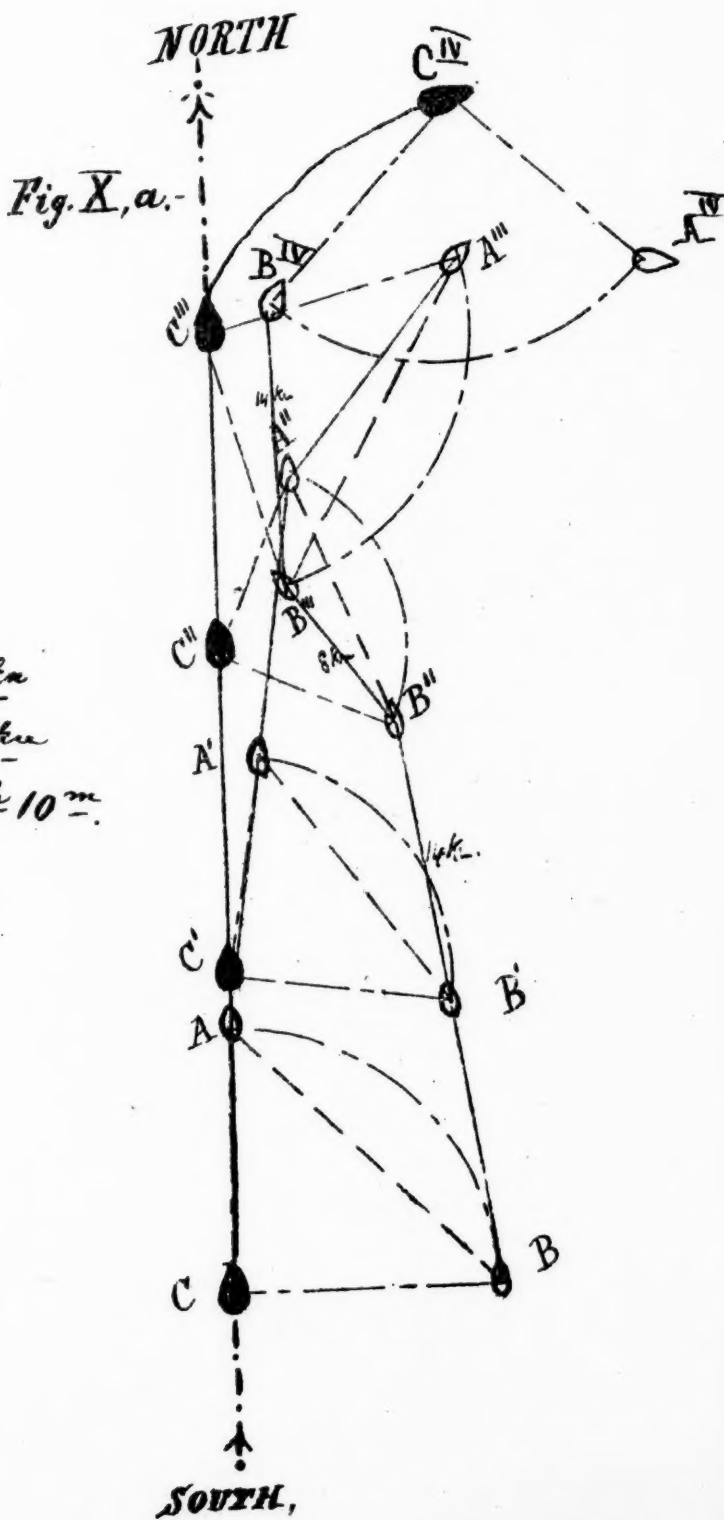
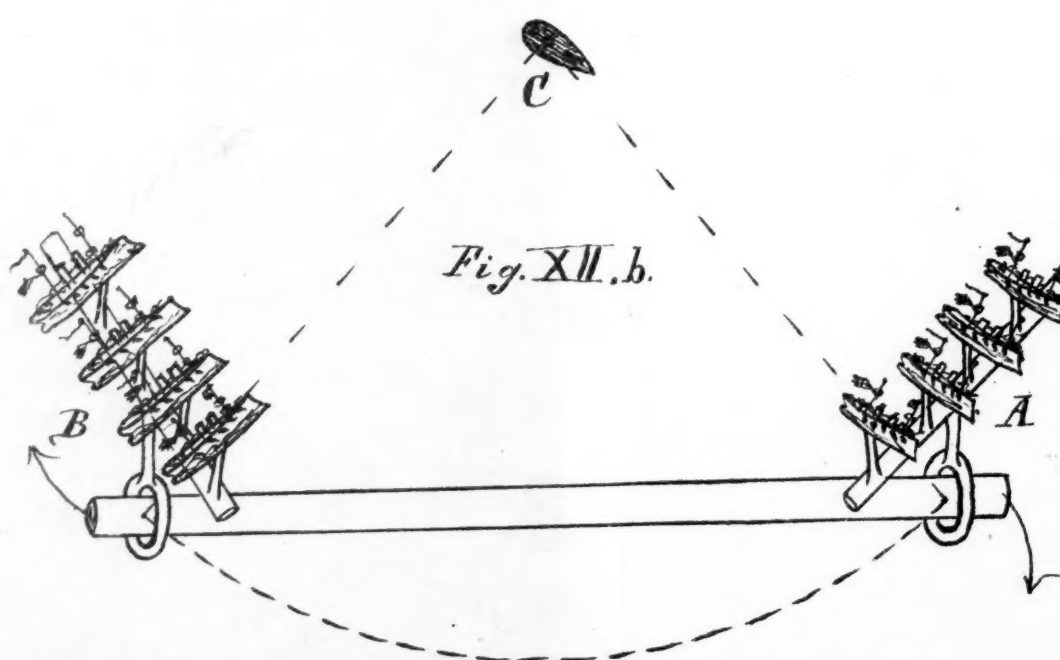
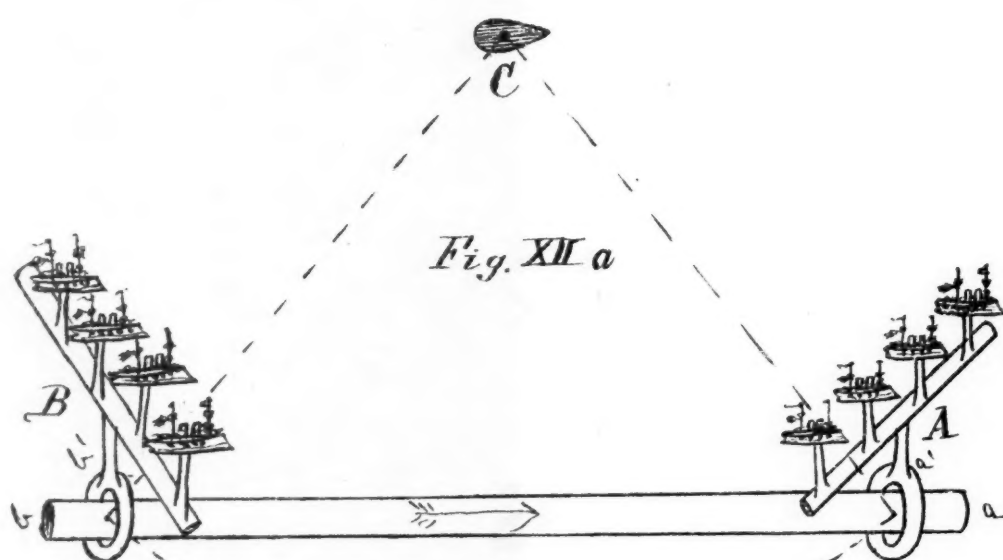
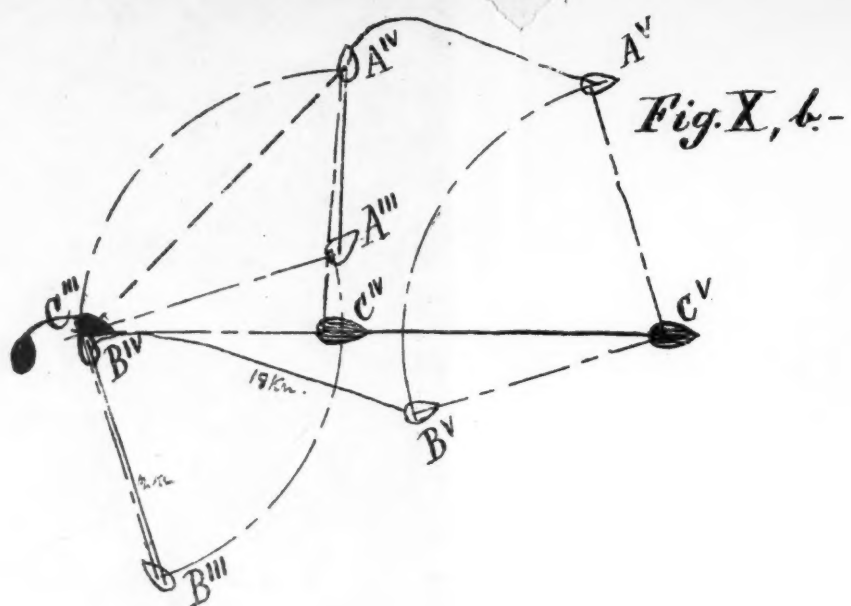


Fig. IX.





b.-

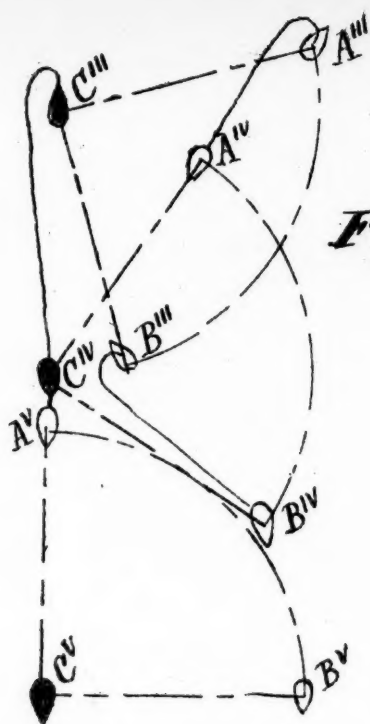


Fig. X, c. -



Fig. XIII.

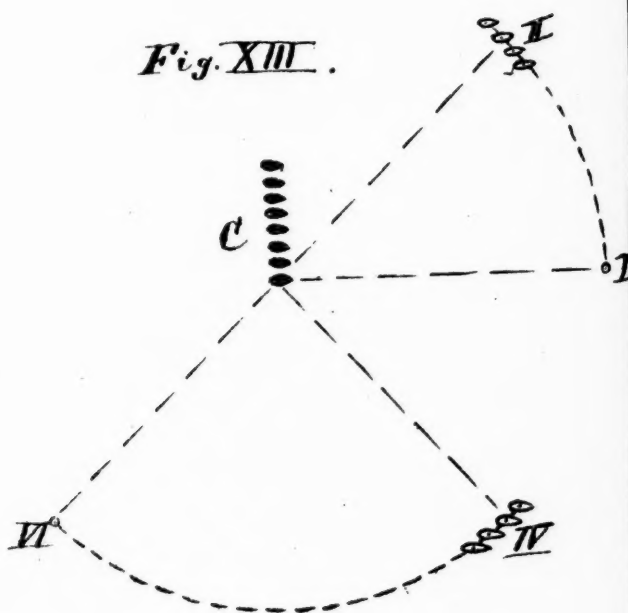
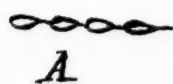
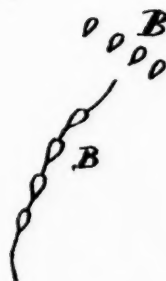
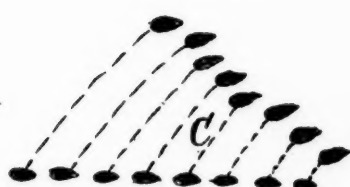


Fig. XIV.



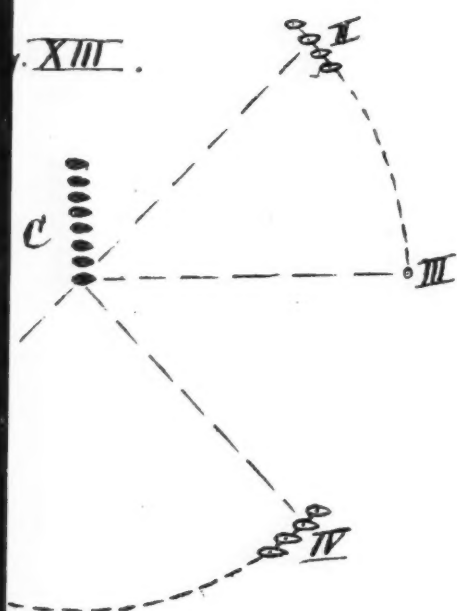


Fig. XV.

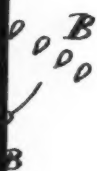
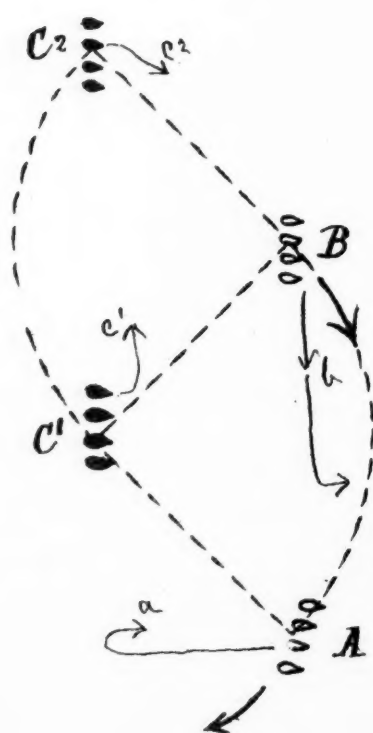


Fig. XI.

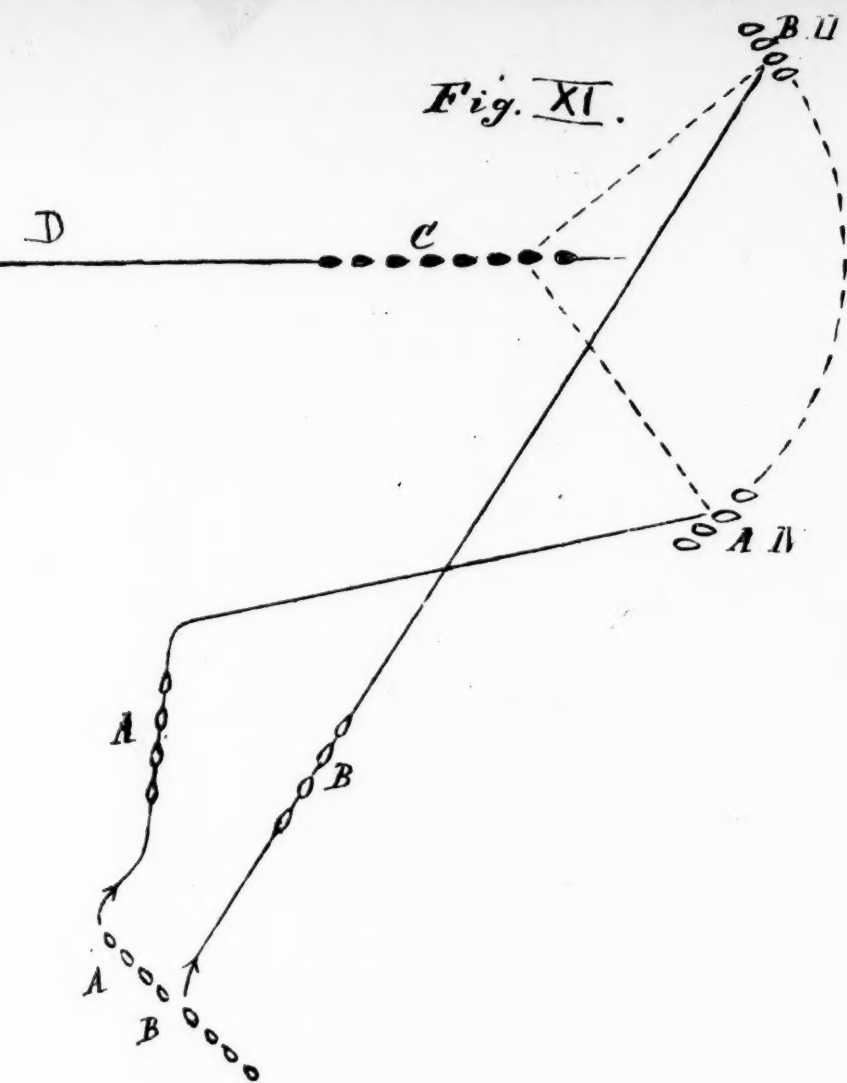
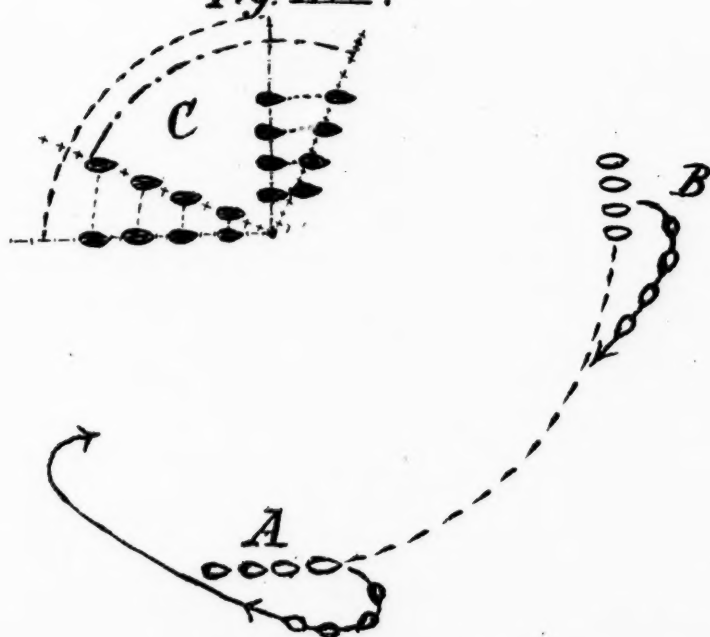


Fig. XVI.

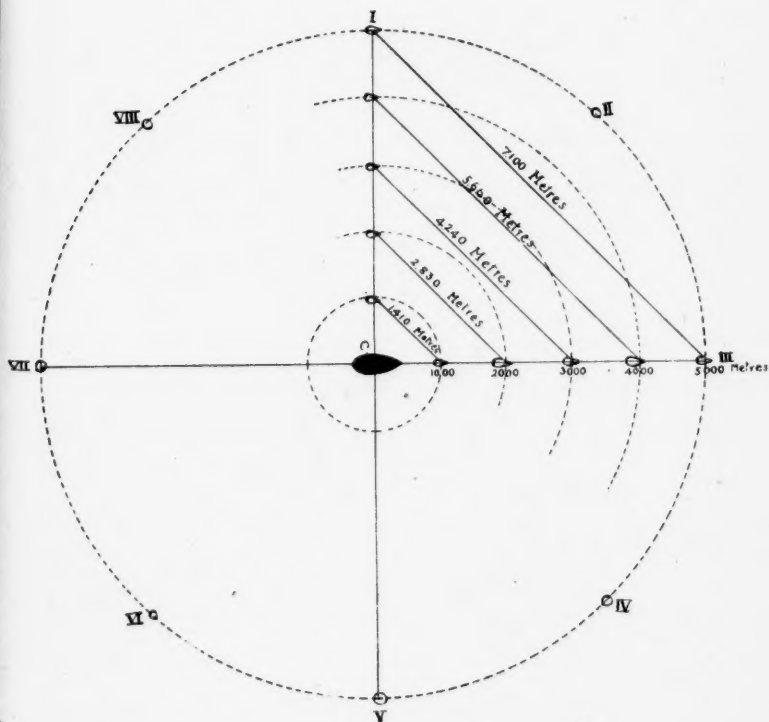


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TABLE 6.

Distance to Enemy.	Distance between A and B.	Distance to Enemy.	Distance between A and B.
Metres.	Metres.	Metres.	Metres.
500	710	5,500	7,800
1,000	1,410	6,000	8,480
1,500	2,100	6,500	9,200
2,000	2,830	7,000	9,900
2,500	3,530	7,500	10,600
3,000	4,240	8,000	11,320
3,500	4,950	8,500	12,100
4,000	5,660	9,000	12,880
4,500	6,480	9,500	13,500
5,000	7,100	10,000	14,100



NAVAL NOTES.

Owing to the amount of space taken up by the Annual Statement of the First Lord of the Admiralty and the Secretary of State for War, it has been found necessary to hold over the bulk of the Foreign Naval and Military Notes.

HOME.—The following are the principal appointments which have been made: Vice-Admirals—Sir A. K. Wilson, K.C.B., V.C., to command of Home Fleet; the Right Hon. Lord C. Beresford, C.B., to command of Channel Squadron; E. Rice to command of Naval Reserves. Captains—W. J. Grogan to "Indefatigable"; A. L. Winsloe, C.V.O., C.M.G., to "Russell"; H. C. Kingsford, to "Hermes"; A. G. Tate to "Spartiate"; V. A. Tisdall to "Melampus"; R. F. O. Foote, C.M.G., to "Ocean"; P. M. Scott, C.V.O., C.B., to "Excellent."

The second-class cruiser "Venus" was commissioned at Chatham on the 7th ult. to relieve the belted cruiser "Australia" as guard-ship in Southampton Water, and has taken up her station. The new first-class battle-ship "Russell" commissioned at Chatham on the 18th ult., for the Mediterranean, and left Spithead on the 12th inst., for her destination, where she will relieve the "Canopus." The first-class cruiser "Hawke" arrived at Portsmouth on the 18th ult. from Malta, bringing home the relieved crews of the "Pyramus," "Dryad," "Speedy," and "Imogene," and paid off at Chatham on the 11th inst. The first-class cruisers "Spartiate" and "Europa" are to be commissioned to take out relief crews to China for the first-class battle-ship "Ocean," the sloops "Algerine," "Phoenix," and "Rosario," the river-gunboats "Sandpiper," "Woodcock," and "Woodlark," and the surveying-vessel "Waterwitch," all which ships are to pay off and re-commission for a further term of service at Hong Kong. The old third-class battle-ship "Hercules" is to take the place of the "Victory" as flag-ship at Portsmouth; she has been placed on the non-effective list, and is having her guns, engines, and boilers removed: when ready the staff and the signalling school will be transferred to her from the "Victory." The work of fitting the second-class battle-ship "Alexandra" as a training-ship for Naval Cadets is being pushed on at Chatham, but she requires extensive alterations to fit her for her new duties, when she is to be moored in Osborne Bay. The third-class battle-ship "Audacious" is being fitted out at Chatham as a torpedo-destroyer depot-ship, and will be stationed at Harwich.

The "Minerva" and "Hyacinth" Boiler Trials.—The second-class cruisers "Minerva" and "Hyacinth" left Gibraltar at 9.30 a.m. on the morning of Sunday, the 15th ult., on their final trial run home to Portsmouth, a distance of 1,150 miles. The "Hyacinth" has Bellevilles and the "Minerva" the old-fashioned cylindrical boilers of the so-called

Scotch type. A few hours after starting the "Hyacinth" was ahead of the "Minerva," and increased her lead hourly as the day advanced. The engines of both cruisers were working satisfactorily, and the engineers on the "Hyacinth" were particularly well satisfied with the boilers, the leakage being very slight. All the eighteen Belleville boilers were being worked at the utmost pressure, the H.P. being about 12,000; whilst on the "Minerva" the eight single-ended boilers were being subjected to a great pressure, the H.P. being about 9,000. During Sunday the "Hyacinth" averaged a little under 21 knots per hour, while the "Minerva's" speed was fully a knot less. Before daybreak on Monday the "Hyacinth" was about 50 miles ahead of her sister ship, and the engines were still giving satisfaction. But shortly afterwards signs of overheating were found in the crank-heads of some of the cylinders of the port engine. Oil was emptied on to the heated bearings in large quantities, and as this did not appreciably diminish the heating, hoses were turned on, and gallons of water were poured on the crank-heads; and it was only when it was positively dangerous that at 8.45 on Monday morning the chief engineer ordered the port engine to be eased down. The metal packing was found to have commenced melting, and there is no doubt the consequences would have been serious if the engine had not been slowed.

It was then decided to stop the engine altogether, and mechanics were set to work on the defective bearings. The ship was now entering the Bay of Biscay, and as she was not making much more than 6 knots per hour with only her starboard engine working, the choppy weather made her roll and pitch considerably. During the morning the "Minerva" caught up with the "Hyacinth," and the accident was signalled. However, the "Minerva" continued on her course, as it had been decided that should one of the ships break down the other should complete the voyage. At a slow rate of speed the "Hyacinth" crossed the turbulent waters of the Bay during the Monday and Tuesday, the "Minerva" being lost sight of towards Monday evening. Soon after entering the Channel the broken-down cruiser got into communication with Rame Head by wireless telegraphy, and received her orders. At nine o'clock the working party had readjusted the bearings, and the port engine was again set in motion. The cruiser proceeded to Plymouth at a speed of about 10 knots, arriving on Wednesday afternoon, the 19th ult., while the "Minerva" arrived at Spithead early on Tuesday morning. As soon as the race was abandoned the "Minerva" dropped to 18 knots, and passed St. Catherine's 62 hours, less 2 minutes, after she left Gibraltar. The "Hyacinth" is to be paid off at Devonport, and after the necessary repairs is to be commissioned to relieve the "Highflyer" as flag-ship in the East Indies.

Steam Trial.—The new first-class armoured cruiser "Kent" has completed for the time her series of steam-trials, which were on the whole satisfactory, but like other ships of her class she has fallen somewhat short of the anticipated speed. At her contract trials the mean speed at the full power run was 21.7. The pitch of her propellers was then altered, and she realised 21.8 knots. It was then decided to polish her hull and propeller blades and so make the ship perfectly clean in the water, with the result that she improved her speed by three-quarters of a knot, though she is still nearly half a knot under her stipulated speed. Further experiments are to be made with her propeller blades with the view of making up this minus quantity. The first three series of runs were made over the measured mile in Stokes Bay, and the second

three series over the measured distance of Chesil Beach. The following table shows the mean results of each series:—

	I.H.P.	Revolutions.		Speed in knots.
		Starboard.	Port.	
Four runs at 10 knots ..	1,675	59.7	59.5	10.585
" " 12 " ...	2,545	69.1	69.2	12.326
" " 15 " ...	5,209	87.9	87.8	15.497
" " 19 " ...	10,514	111.4	109.3	19.290
" " 21 " ...	16,571	125.9	125.5	21.700
" " full-power ...	22,085	139.0	139.5	22.569

—*Times, Naval and Military Record.*

The Navy Estimates.—The First Lord's Statement.—The "Statement of the First Lord of the Admiralty explanatory of the Navy Estimates, 1903-1904" was issued on 9th March as a Parliamentary paper [Cd. 1478]. In accordance with the form adopted last year, the general "Statement" is followed by an appendix containing a detailed "Statement of Work, 1902-1903," reviewing the work accomplished in various departments during the administrative year now drawing to a close:—

The Estimates for 1903-4 amount to £34,457,000, as opposed to £31,255,000 for the current year.

ADMINISTRATION.

The expansion and reorganisation of the Admiralty mentioned in my memorandum of last year is steadily proceeding on the principles therein laid down. The question of the organisation of the Controller's Department was referred to a Committee presided over by Admiral Sir Charles Fane, K.C.B., the report of which was of great assistance to the Board. As the result, the Controller's Department as a whole has been strengthened; the Controller himself has received a Naval Assistant, and in that and other ways has been relieved of the burden of details, responsibility for which has been entrusted to his subordinates. In the sphere of work of the Director of Naval Construction a new sub-branch has been formed under an officer, styled the Superintendent of Construction Accounts and Contract Works, whose position towards the Director of Naval Construction is analogous to that of the Superintendent of Naval Ordnance Stores to the Director of Naval Ordnance. The result is that while the Director of Naval Construction will be freer than he has ever been to devote his whole energies to the work of designing ships and of generally supervising their construction in accordance with his designs, the duty of the detailed superintendence of contract and financial work connected with construction will devolve on this new officer. The Department of the Engineer-in-Chief has also been strengthened, and so better equipped to meet the constantly increasing strain upon it. The Engineer-in-Chief is not only the responsible adviser of the Board of Admiralty on all questions of Naval engineering, but he is also the official head of the engineering branch of the *personnel* of the Navy. These two duties do not seem to me to be necessarily connected, and in view of the constantly increasing importance of what are really the functions of a Director of Naval Engineering, the time will, in my opinion, come when it will be more convenient to separate them.

As already announced the Board have decided to strengthen their equipment for dealing with specially difficult problems of marine engineering, by asking a small committee of the highest recognised authorities in the country to consent to meet on occasion, when summoned by the Controller, and give them the benefit of their advice on any question submitted to them. The Naval Ordnance Store Department reorganised as an integral sub-branch of the Naval Ordnance Department, as mentioned in my last memorandum, has worked admirably during the past year. The policy of separation of Naval from Military ordnance stores is being steadily pursued. It has for some time been complete at the Home Ports; it was finally effected at Malta last year, it will be carried out this year at Bermuda, and it is under present consideration in relation to Hong Kong. The representation of the Navy on the Ordnance Committee has been strengthened by the addition of an officer of the Royal Marine Artillery, and the Rear-Admiral Vice-President of the Ordnance Committee has become an Associate Member of the Explosives Committee.

The excellence of the organisation of the Transport Department of the Admiralty has been proved by the readiness with which that department expanded itself to deal successfully with the vast calls made upon it in connection with the late war. As a result of the experience gained during the war the department has been permanently strengthened and its organisation slightly modified.

The establishment of the Naval Intelligence Department has been permanently increased during the past year by the addition of two Naval officers of the Executive branch, one Marine officer, and a Civil servant, and temporarily by the addition of one Naval officer of the Executive and another of the Engineer branch, and of another Marine officer. I have noticed some misconception in respect of this Department which I should like to correct; it seems to be a prevalent idea that either the Board of Admiralty or the Treasury have crippled it by refusing it the funds wherewith to expand, and frequent comparisons are drawn between the magnitude of the work which must fall to it and the size of its staff, and that of the staff of various foreign nations. I am glad of this opportunity of stating categorically that this conception of the attitude of the Treasury has no foundation in fact, and that it is equally erroneous to suppose that the Board of Admiralty do not give their whole support to the Director of Naval Intelligence in his all-important task. The fact is that the Department is steadily expanding and will continue to expand, and it will have every assistance in its expansion which His Majesty's Government can give it; but I am not prepared to admit that the only measure of the value of the work of a department is the size of its staff, or that an exact comparison is possible between the staff of our Intelligence Department and that of a foreign nation.

As is well known, the organisation of the war mobilisation of the Fleet is part of the duty of the Naval Intelligence Department, and this work is being constantly revised; but the full scheme of the Board includes also the elaboration of the war organisation of the Admiralty itself under the responsibility of the Secretary of the Admiralty, and aims at securing that each department of the Admiralty shall, at the same time as the Fleet is mobilised for war, be able to mobilise itself immediately for war administration, and that as little as possible shall be left for decision when war breaks out. Every department will expand automatically and know exactly how to carry on without referring to the Board for instructions.

The large programme of Works which it has been necessary to undertake to meet Naval requirements has involved a rapid increase in the Staff of the Works Department, and it has been difficult to obtain sufficient entries of competent Civil Engineers to keep it up to its proper strength. The conditions of entry and service have been investigated by a Committee, and on their recommendation certain changes are being made which should render the Works Department service sufficiently attractive to secure the entry by competitive examination of the best class of young men who are entering the engineering profession.

PERSONNEL.

In my statement of last year I recognised my special responsibility for devising a remedy for the future for the absence from the Flag List of a due proportion of younger officers, and the Board have already taken steps in this direction. At first sight the question appears a simple one: it is, however, one of the most complicated that can be conceived, because any change in any direction affects the career of such large numbers of officers, and, unless fully thought out in advance, is liable to produce unexpected and undesired results. To assist them in elucidating this complicated problem the Board appointed a Committee consisting of Viscount Goschen, Admiral Sir Michael Culme Seymour, Bart., G.C.B., Sir Francis Mowatt, G.C.B., Permanent Secretary of the Treasury, Rear-Admiral E. S. Poë, M.V.O., Captain Sir G. Warrender, Bart., R.N., C.B., Sir Richard Awdry, K.C.B., Accountant-General of the Navy. This Committee, to which and especially to its chairman, Lord Goschen, the Board are deeply indebted, have presented their report. As this report has only just been received, the Board have not yet had the opportunity of considering it, and I must reserve for a future occasion an examination of the question in detail.

I have again to emphasise in the strongest way the value of the war course at Greenwich for the senior officers of the Navy as conducted by the Captain of the college. The more the work of that course proceeds the more strongly emphasised is the necessity for its existence. It is not all officers who have turned their minds to the considerations of the many problems which will confront them in war, and the more this course stimulates the study of naval problems by officers of every rank the better it will be for the Navy.

I have so recently laid before Parliament in a separate memorandum the new scheme of entry and training of naval officers that I have little at present to add to it, except to repeat what was stated in a footnote that the Board are well aware that the age at which the medical and accountant officers of the Navy reach their relative rank requires readjustment. The Board have adopted it as a principle that the age at which the relative rank is attained by the different branches of the Service should be more closely equalised, and the details are now being worked out. New and important regulations affecting the Medical Branch and the Naval Chaplains respectively, details of which will be found in the Appendix, have come into operation during the course of last year. The new departure of sending the fourth term cadets to sea in the "Isis" has been an unqualified success. Not only has the time at sea been in no way detrimental to their studies, but the practical instruction has been such that they have been reported as already fitted to perform their duties as midshipmen on joining the Fleet from the "Isis."

The detailed plan for the future training of the men of the Navy is being steadily elaborated. It will be first of all introduced in the Portsmouth command, and will provide, among other things, that in the future an able seaman, before receiving his rating as such, must possess some mechanical knowledge and a fair knowledge of the simpler duties of the stokehold. On the same principles all obsolete instruction will be eliminated from the course on the boys' training ships, and elementary instruction in the use of mechanical appliances substituted for it. Much more time will also be devoted than hitherto to the instruction of the boys in Gunnery. In old days the physical training of the seamen was provided for in the best possible way by their work on the masts and yards. This is no longer the case, and it has been necessary to provide an adequate physical training by other means. Some particulars as to the gymnastic training which is being organised will be found in the Appendix.

The numbers voted for the current year were 122,500 officers and men active service ratings. This establishment will undoubtedly have been fully reached by the end of the financial year, and for next year the numbers proposed are 127,100. The increase will consist of the following ranks and ratings:—

Officers	...	...	...	...	...	...	262
Warrant officers	...	...	...	...	...	...	95
Seamen	...	...	...	...	...	...	1,637
Artisans and electricians	...	...	...	...	...	...	95
Engine-room artificers	...	...	...	...	...	...	200
Stokers	...	...	...	...	...	...	1,830
Miscellaneous	...	...	...	...	...	...	411
Boys (Artificers, Shipwrights, &c.)	...	...	...	...	...	...	70
Total	...	...	...	...	...	...	4,600

In accordance with the recommendations of the Committee on Naval Reserves, presided over by Sir Edward Grey, it is proposed that 625 of the stokers and 375 of the seamen should be non-continuous service men. Legislation will be proposed to Parliament to enable the Board of Admiralty to make it a condition of enlistment for non-continuous service that after a limited period of service in the Fleet the men so enlisted should join the Royal Fleet Reserve for the unexpired portion of 12 years. The Board owe a deep debt of gratitude to Sir Edward Grey and his colleagues for their work; the recommendations of the Committee will assuredly be of great value to the Board. I trust that as the result of the work of this Committee a principle and standard in respect of the manning of the Navy will be adopted by the Board which will receive the seal of the concurrence of Parliament; but, in view of the constant demands that are made in various quarters that additional ships should be placed in commission, I wish to lay stress on the fact that the number of the active service ratings must continue to increase disproportionately to the growth of the reserves unless a fairly constant ratio is observed between the ships in commission and the ships in reserve. On mobilisation for war each freshly-commissioned ship will receive a crew drawn partly from the active service ratings and partly from the reserves, in carefully approved proportions; but in time of peace a ship in commission can only be manned by active service ratings, the reserves—except for training in ships of the Home Fleet—not being available for this purpose. It consequently follows that at each additional commissioning in time of

peace either the establishment of the active service ratings must be increased, or the number of active service ratings required to give the proper proportion to reserves will be deficient at the moment of mobilisation for war.

The "Calypso," fitted as a drill ship, has been stationed at St. John's, and the Board are glad to be able to announce that with the assistance of the Colonial Government the Newfoundland branch of the Royal Naval Reserve is fairly started. It at present numbers some 180 men.

I have frequently expressed the views of the Board of Admiralty as to the overwhelming importance of proficiency in gunnery, and I am able to state positively that the whole of the Navy are striving, both officers and men, to reach the highest standard. It has recently been decided to award a medal (carrying with it a bonus) to be worn on the right breast to the captains of the guns, seamen or marines, in each ship, who are judged by the Captain to be the best shot in that ship during the year with each nature of gun, conditionally on their attaining a *minimum* standard to be approved by the Admiralty. Gunnery is often spoken of as merely a question of money, but I entirely demur to this view. I do not believe that any amount of money prizes would stimulate the Fleet to as great exertions in this matter as their patriotism and sense of honour and duty are doing now. To make it a question of money is to lower the standard of duty, and in the end to deteriorate the proficiency of the ship for the purposes of war. The inevitable tendency of wholesale money prizes is to create an artificial atmosphere of competition as unlike as possible to the reality of war. Further, I must point out that the conditions under which different ships shoot differ so widely that there would be grave risk of injustice and of consequent discouragement if any attempt were made to single out one ship in the year as the best shooting ship in the Navy, or one man as the best shot in the Navy. On the other hand, it is quite possible to judge which man in each ship is the best shot with each nature of gun, and to mark him out for honour accordingly as the Board have done. The fact is that excellence in gunnery is a question only of endeavour and of a sound system of training.

CONSTRUCTION AND RECONSTRUCTION, AND REPAIRS.

All the money voted for the year 1902-3 will have been earned and spent by the 31st March. The amount proposed in the Estimates for 1903-4 for New Construction is £10,137,000, of which £1,150,000 will be devoted to the commencement of new ships. The corresponding amounts for the current year were £9,058,000 and £700,000 respectively. Since my last statement was presented to Parliament the Board have considered carefully the report of the Committee on the past arrears in shipbuilding; they believe that the light shed on the subject by that report has been of much value, and they have accordingly taken every opportunity of profiting by its recommendation. Between the 1st April, 1902, and the 31st March, 1903, inclusive, the following ships will have been completed and passed into the Fleet Reserve:—

Battle-ships.—"London," "Venerable," "Russell," "Montagu."
 First Class Armoured Cruisers.—"Bacchante," "Good Hope," "Drake,"
 "Leviathan," "King Alfred."
 Sloops.—"Odin," "Merlin."
 4 Destroyers, 3 Torpedo Boats, 6 Submarines.
 Repair Ship.—"Assistance."
 Distilling Ship.—"Aquarius."

On 1st April, 1903, there will be under construction :—

11 Battleships	2 Sloops
19 Armoured Cruisers.	19 Destroyers.
2 Second Class Cruisers.	8 Torpedo Boats.
4 Third Class Cruisers.	3 Submarines.
4 Scouts.	

And it is expected that between the 1st April, 1903, and the 31st March, 1904, inclusive, the following ships will have been completed and passed into the Fleet Reserve :—

6 Battleships.	4 Destroyers.
11 Armoured Cruisers.	8 Torpedo Boats.
1 Second Class Cruiser.	3 Submarines.
2 Sloops.	

It is proposed to commence during the financial year, 1903-4 :—

3 Battleships.	4 Scouts.
4 First Class Armoured Cruisers.	15 Destroyers.
3 Third Class Cruisers.	10 Submarines.

It will also be necessary to build a new Admiralty Yacht, the old "Enchantress," which has been going for nearly 40 years, being no longer seaworthy, another shallow-draft River Steamer for the China Station, and 2 vessels for Naval Reserve work.

Much progress will have been made by the 31st March next in the policy of reconstruction, announced in my statement of last year, as will be seen from the following list :—

Completed.—Battleships ("Royal Sovereign" Class).—"Empress of India," "Resolution," "Revenge," "Royal Oak."
First Class Cruiser.—"Powerful."
Second Class Cruisers.—("Talbot" Class).—"Doris," "Venus," "Dido," "Isis."

In Hand.—Battleships.—"Barfleur," "Centurion."
First Class Cruiser.—"Terrible."

Owing to the great pressure of work in the dockyards it has been decided to allow the contractors who are building the ships to complete them in all respects ready for commission, by which means all the ship-building firms who construct war vessels will gain further experience and be better prepared to undertake naval work. The completion of these ships will entail an increase of the Controller's Naval staff in order to ensure that the ships are fitted in every way in accordance with the usual custom of the Service and to avoid any alterations or additions at the dockyards after final delivery. The policy of relieving the congestion of repairs in the dockyards by sending ships to be repaired by the private firms which built them has been largely followed, and the Board propose to continue the policy, which I am convinced is for the advantage of the Navy.

The subject of subsidised merchant cruisers has been brought to the front by the reports of the inter-departmental Committee, over which Lord Camperdown presided, and of the Committee of the House of Commons, of which Mr. Evelyn Cecil, M.P., was chairman, and by the creation of the great American shipping combination. Subsidised merchant cruisers can never be a substitute for His Majesty's cruisers, but they will have their special uses. It did not seem to the Board right that any ship should be in existence which, in case of war, no ship at the disposal of the Board could reasonably expect to catch, and they were accordingly glad when,

for this reason among others, His Majesty's Government decided, should Parliament approve, to give such a subsidy to the Cunard Company as will enable them to build two steamers of superior speed to anything afloat, which will be entirely at the disposal of the Admiralty in time of war. This, in the opinion of the Board, was definitely the most economical method of effectually meeting a special need. Before the current agreement in respect of subsidised merchant cruisers with the various steamship companies expires, two years hence, the Board will have to consider their policy in respect of ships of no special speed in the light of the reports of the two Committees already mentioned.

Since my last statement the Boiler Committee have presented their final report on the questions referred to them, and I have announced that the policy of the Board, until further experience has been gained with the various types of watertube boilers now being placed in His Majesty's ships, is to adhere to a combination of four-fifths watertube of certain types recommended by the Committee, and one-fifth cylindrical boilers. I have never attempted to minimise the difficulties which have been caused to the fleet by the adoption of Belleville boilers; these difficulties were due partly to the faulty manufacture of the first series of such boilers, partly to the great increase of pressure, and partly to the initial want of training of the *personnel* in their management, but they were mainly *ejusdem generis* with those which the Navy had for years to contend with on the first adoption of the various kinds of boilers which preceded them. As each of the earlier Belleville boiler ships comes in for refit on the termination of her commission she is being placed in thorough repair and made absolutely efficient for service. Owing to the experience gained no further difficulties ought to occur with these ships, and, although the Board agree with the Boiler Committee in considering other types of watertube boilers to be much preferable, they also share the Committee's view that to replace these boilers by others in the ships which already have them would be an unjustifiable, because an unnecessary, expense. I warned Parliament that the cost of repairs for the boilers of the earlier ships fitted with watertube boilers would prove to be very heavy; but at the same time I pointed out that the history of the experience of the use of any new invention generally proceeded on similar lines, and that, in my opinion, the watertube boiler had come to stay. Conflicting opinions on this subject are held so strongly that experience only can decide between them. On the one hand is arrayed the opinion of those who absolutely condemn the watertube boiler, on the other the deliberate policy of every Naval Power, the report of our own recent Boiler Committee, and the opinion of every naval officer who is in command of a squadron which would have to act in war or who has the responsibility for decision at the Admiralty. If, as I believe will be the case, the offensive and defensive features of the new class of battleship now being designed, and of the "Duke of Edinburgh" class of armoured cruiser, give general satisfaction, it must be remembered that these results could not have been produced on anything like the displacement of these classes of ships but for the adoption of the watertube type of boiler.

The destroyer fitted with the turbine system of machinery, the "Velox," alluded to in my last statement, is now going through her trials, and so has enabled the Board to resume their experiments.

The experiments with oil fuel referred to in both my last statements have been steadily prosecuted with constantly encouraging results, and two battle-ships of the Channel Squadron, the "Mars" and the "Hannibal," and the new armoured cruiser "Bedford," are now being

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fitted in respect of some of their boilers for a more extended trial, both with oil fuel alone and with oil fuel in combination with coal. The problem which the Navy has to solve in the use of oil fuel is a much more difficult one than that which the Mercantile Marine has had to solve, because oil fuel can be of no use to the Navy as compared with Welsh steam coal unless the combustion can be brought to such perfection as to render the fuel practically smokeless.

DISTRIBUTION OF THE FLEET.

The proposals of the Board of Admiralty in respect of the Australian Squadron are contained in the papers which have been laid before Parliament in connection with the recent Colonial Conference, and I need not refer to them further here as those proposals have still to be discussed by the Parliaments of the Commonwealth and New Zealand. It has been decided to sever the West Coast of Africa from the Cape Station and to form a new Squadron to be called the South Atlantic Squadron, which will serve the South-East Coast of America and the West Coast of Africa, and use Gibraltar and Sierra Leone as its bases.

The policy of changing the composition of the Home, Channel, and Mediterranean Squadrons of battle-ships so that, like the China Squadron, they shall be composed of homogeneous classes of ships, is steadily progressing, and will be continued in the coming year. Both the Mediterranean Fleet and the Channel Squadron have now two armoured cruisers apiece of the "Cressy" class, and the Cruiser Squadron, which has lately been placed under the command of a Rear-Admiral, will shortly, I hope, be composed only of 23-knot vessels—viz., two of the "Drake" and four of the "Monmouth" class.

Two additional Rear-Admirals have been appointed to the Mediterranean, one for service with the Cruiser Division of the Fleet and one as Senior Naval Officer at Gibraltar, the importance of which as a base is so greatly increased by the approaching completion of the moles and docks.

The Fleet in home waters has been reorganised and placed under the orders of a Vice-Admiral in Command, with a Rear-Admiral as second in command. His duties and responsibilities in respect of home waters are analogous to those of the Commander-in-Chief in the Mediterranean, except that they will in no way overlap or impinge upon the authority of the Commanders-in-Chief of the three home ports within their respective commands. The Home Fleet is quite independent of the Channel Squadron; it has as its nucleus of battle-ships the Home Squadron, consisting of the former port guard-ships, which have been withdrawn from this service, and it has its headquarters at Portland. This squadron, in combination with the Coastguard battle-ships and cruisers, composes the Home Fleet, which assembles three times in each year for joint exercises. Under the orders also when required of the Admiral commanding the Home Fleet will be the several destroyer flotillas along the coast, which are now organised each under its own captain and commander, with a stationary parent ship and supervised by an inspecting captain of destroyers, who is responsible for the general organisation of the whole. Sheerness Dockyard will be specially organised to undertake large refits and repair work for destroyers and torpedo-boats. The Admiral-Superintendent of Naval Reserves, whose duties will be largely increased in the future by the growth of the Reserves, will have separate and independent functions, and will no longer command a sea-going squadron.

The increase of the Fleet in commission and reserve in home waters, and the consequent congestion of accommodation both for ships and men at the three home ports, led the late Board to appoint a committee to inquire into the whole question. After full consideration of the report of this committee, presented in January, 1902, the Board came to the conclusion that the time had arrived for the creation of a fourth naval base and depôt in the United Kingdom. After an examination of all the available sites and a thorough consideration of the question in its industrial and strategical aspects, necessarily extending over a good many months, the Board selected the Firth of Forth as fulfilling all the requirements of the Navy. Provisional negotiations have been proceeding for some weeks past, and proposals will be submitted to Parliament in the course of this Session for the acquisition of the land necessary to establish there a fourth home port.

I append the usual statement of the work done in the past year by the various departments of the Admiralty.

SELBORNE.

14th February, 1903.

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THE ESTIMATES.

The Navy Estimates for the year 1903-04 have been issued as a Parliamentary paper [49], and the following is an abstract showing the increases and decreases as compared with the corresponding vote for last year :—

Votes.	—	Net Estimates.		Difference on Net Estimates.	
		1903-1904.	1902-1903.	Increase.	Decrease.
	I.—Numbers.	Total Numbers.	Total Numbers.	Numbers.	Numbers.
A	Total number of officers, seamen, boys, Coastguard, and Royal Marines ...	127,100	122,500	4,600	—
	II.—Effective Services.	£	£	£	£
1	Wages, &c., of officers, seamen, and boys, Coastguard, and Royal Marines	6,312,800	5,962,000	350,800	—
2	Victualling and clothing for the Navy ...	2,292,500	2,023,500	269,500	—
3	Medical establishments and the services ...	259,000	246,500	12,500	—
4	Martial law ...	15,500	17,700	—	2,200
5	Educational services ...	116,100	101,700	14,400	—
6	Scientific services ...	69,400	65,600	3,800	—
7	Royal Naval Reserves ...	297,500	286,900	10,600	—
8	Shipbuilding, Repairs, Maintenance, &c.:—				
	Section I.—Personnel	2,991,800	2,661,500	330,300	—
	Section II.—Matériel	4,786,700	4,812,700	—	26,000
	Section III.—Contract work ...	9,571,500	7,665,800	1,905,700	—
9	Naval armaments...	3,206,100	3,356,400	—	150,300
10	Works, buildings, and repairs at home and abroad	1,502,000	1,100,000	402,000	—
11	Miscellaneous effective services ...	409,500	368,000	41,500	—
12	Admiralty Office ...	306,400	294,300	12,100	—
	Total effective services ...	32,136,800	28,962,600	3,352,700	178,500
	III.—Non-Effective Services.				
13	Half-pay, reserved, and retired pay ...	784,300	782,100	2,200	—
14	Naval and marine pensions, gratuities, and compassionate allowances ...	1,186,300	1,160,700	25,600	—
15	Civil pensions and gratuities ...	350,100	350,100	—	—
	Total non-effective services ...	2,320,700	2,292,900	27,800	—
	Grand total ...	34,457,500	31,255,500	3,380,500	178,500
	Net Increase ...	...	...	£3,202,000	...

GENERAL.

The war-ships, exclusive of torpedo-boats, launched during the year 1902, with their tonnage, I.H.P., and estimated speed, were as follows:—

Great Britain.—First-class battle-ships:—"Queen," "Prince of Wales," both of 15,000 tons, 15,000-I.H.P., and 18 knots speed. First-class armoured cruisers:—"Berwick," "Cornwall," "Cumberland," "Donegal," "Lancaster," all of 9,800 tons, 22,000-I.H.P., and 23 knots speed. Second-class cruisers:—"Challenger," "Encounter," of 5,900 tons, 12,500-I.H.P., and 21 knots speed. Torpedo-boat destroyer:—"Velox," 360 tons, 8,000-I.H.P., and 33 knots speed. Submarine boats:—Five, not named.

Argentine Republic.—First-class armoured cruiser:—"Barnardino Rivadavia," 7,500 tons, 13,000-I.H.P., and 21 knots speed.

Austria-Hungary.—Second-class battle-ship:—"Babenberg," 8,340 tons, 11,900-I.H.P., and 18 knots speed. Submarine boat:—One.

Chili.—Torpedo-boat destroyers:—"Capitan Merino Jarpa," "Capitan O'Brien," of 300 tons, 6,000-I.H.P., and 30 knots speed.

France.—First-class battle-ship:—"République," 14,865 tons, 17,500 I.H.P., and 18 knots speed. First-class armoured cruisers:—"Amiral Aube," "Condé," of 10,014 tons, 20,500-I.H.P., and 21 knots speed; "Kléber," 7,700 tons, 17,100-I.H.P., and 21 knots speed. Torpedo-boat destroyers:—"Arquebuse," "Carabine," "Sagaie," of 303 tons, 4,800-I.H.P., and 26 knots speed; "Harpon," "Mousquet," of 307 tons, 6,300-I.H.P., and 28 knots speed. Submarine boats:—"Naïade," of 68 tons, and 8 knots speed.

Germany.—First-class battle-ship:—"Braunschweig," of 13,000 tons, 16,000-I.H.P., and 18 knots speed. First-class armoured cruiser:—"Prinz Friedrich Karl," of 9,050 tons, 17,000-I.H.P., and 21 knots speed. Third-class cruisers:—"Arcona," "Frauenlob," "Undine," of 2,715 tons, 8,000-I.H.P., and 22 knots speed. Torpedo-boat destroyers:—Seven, 108 to 113, not named, of 350 tons, 6,000-I.H.P., and 28 knots speed. River gunboat:—One of 170 tons, and 13 knots speed. Submarine boat:—One ("Holland" type).

Italy.—First-class armoured cruiser:—"Francesco Ferruccio," of 7,500 tons, 13,500-I.H.P., and 20 knots speed. Torpedo-boat destroyer:—"Aquilone," of 330 tons, 6,000-I.H.P., and 30 knots speed. Submarine boat:—"Tritone."

Japan.—Torpedo-boat destroyer:—"Asashio," of 295 tons, 7,200-I.H.P., and 31 knots speed; "Kasumi," of 360 tons, and 31 knots speed.

The Netherlands.—Third-class battle-ship:—"Hertog Hendrik," of 4,950 tons, 6,000-I.H.P., and 16 knots speed.

Russia.—First-class battle-ships:—"Kniaz Suvaroff," "Orel," of 13,600 tons, 16,500-I.H.P., and 18 knots speed. First-class cruiser:—"Otchakov," of 6,250 tons, 19,500-I.H.P., and 23 knots speed. Torpedo-boat destroyers:—"Skavorets," "Strij," "Blestiashehii," "Boiki," "Bravi," "Buini," "Buistri," of 350 tons, 6,000-I.H.P., and 27 knots speed; "Albatros," "Brozd," of 230 tons, 3,800-I.H.P., and 27.5 knots speed. Training-ship:—"Okean," of 12,000 tons, 11,000-I.H.P., and 18 knots speed.

Sweden.—Torpedo-boat destroyer:—"Mode," of 320 tons, 6,500-I.H.P., and 32 knots speed.

United States.—Third-class cruisers :—"Denver," "Galveston," of 3,200 tons, 4,800-I.H.P., and 17 knots speed. Torpedo-boat destroyers :—"Barry," "Hopkins," "Hull," "Stewart," of 420 tons, 8,000-I.H.P., and 29 knots speed. Submarine boats :—"Grampus," "Pike," "Plunger," of 120 tons, and 5 knots speed; "Protector," of 170 tons, and 7 knots speed. River gun-boat :—"Romblon," of 200 tons.

FRANCE.—The following are the principal appointments which have been made : Capitaines de Vaisseau—P. Gervaise to command of Corsican Naval Division; L. Pivet to "Bruix"; C. P. Poidlou to "Château-renault"; Le Bris to "Gaulois"; A. Guillou to "Bouvet." Capitaines de Frégate—E. A. G. Serres to "Linois"; F. O. Le Channelier to "Manche"; J. M. A. Barnouin to "Lance" and *Défense-Mobile*; M. E. Laurent to "Cassini"; L. A. Mottez to command of submarines at Cherbourg; M. P. Jaurès to "Galilée"; J. Kerquital to "Durandal."—*Journal Officiel de la République Française*.

By the death of Vice-Admiral Roustan, Maritime Prefect of Brest, in Paris on the 28th ult., the French Navy loses one of its most distinguished and popular officers. He was born on 10th June, 1842, entering the "Ecole Navale" at the age of 17, and becoming a lieutenant ten years later. As capitaine de frégate he commanded the cruiser "Hamelin" during the operations in Tonkin. He was promoted capitaine de vaisseau 5th May, 1886, a few months after his return to France, and in this rank he commanded the cruiser "Rolland," and the battle-ship "Formidable," bearing the flag of Admiral Duperré, after which he was appointed chief of the staff to Admiral Des Vignes, when that officer commanded the Mediterranean Fleet. He was promoted rear-admiral 27th January, 1894, and appointed director of the *personnel* at the Ministry of Marine, and subsequently director of the Ecole Supérieure de la Marine, and next to the command of a division of the Mediterranean Fleet.

He became a vice-admiral 17th January, 1901, and was shortly afterwards appointed prefect maritime of Brest. While holding this appointment he was selected to command the squadron which conveyed the President of the Republic to Russia last May, in consequence of his having been attached to the personal staff of the Empress during the visit paid by the Tsar to France. He was a commander of the Legion of Honour.

Minutes by the Minister of Marine.—With a view to increasing the number of officers available for general service, the Minister of Marine has caused a decree to be signed reducing the personal staff of flag officers at sea by one lieutenant and two aspirants. An admiral's staff will therefore in future be as follows :—

When commander-in-chief of a squadron.—Three aides-de-camp, namely, 1 capitaine de frégate, 2 lieutenants, and 2 aspirants.

When commanding a division of a squadron.—One aide-de-camp, namely, 1 lieutenant, and no aspirants.

The number of pupils to be admitted to the Ecole Navale in 1903 has been fixed at 55. This is the smallest number admitted for many years, and falls short by 20 of the requirements of the Service. It is said that the difference is to be made up by promotions from the rank of sous-officier.

The Minister of Marine has censured the responsible officials and the chief engineer of the cruiser "Catinat," now disarming at Lorient, whose

bunkers were found to be 221 tons short of their complement of 705 tons. The first assistant engineer has been sent to prison for 6 months, and the engineer will be subjected to disciplinary treatment.

The Minister of Marine has issued a circular explaining his objections to the use of water-tube boilers with small tubes in large war-ships. He also gives his reasons for insisting on a 10 hours' trial with full power instead of a 3 hours' trial with fires alight under only three-quarters of the boilers. The amount of coal used per hour per square metre of grating area should be, in his opinion, increased from 110 to 150 kilos.

The *Petit Var*, in an article defending M. Pelletan from the charge of delaying the building of large war-ships, states, among other things, that the four 12-inch guns of the battle-ship "Suffren" were each fitted with different gear for laying the gun, and in two cases this has broken down, necessitating a delay of 5 months in the gun trials. Sixty-six turrets were ordered, each to receive two 6.45-inch guns, and now they are made they are found to be too small.

The Collision Between the "Bouvet" and "Gaulois."—With reference to the recent collision between the battle-ships "Bouvet" and "Gaulois," of the Mediterranean Squadron, during a tactical manœuvre, it is stated that the Minister of Marine does not approve of the conclusions of the court of enquiry or the recommendation of Vice-Admiral Pottier, commanding the squadron, that the captains of these vessels should be acquitted of blame. He intends, it is said, to make an example to the Navy by relieving the two captains of the battle-ships from their commands, namely, Captain Dufayol de la Maisonneuve of the "Bouvet," and de Surgy of the "Gaulois," the first having handled his ship badly when taking up his position in the squadron in line ahead, and the second having done nothing to avoid a collision which otherwise he saw was inevitable. As regards Lieutenant Marcotte de Saint-Marie, who commanded the "Epingole" when she was wrecked, he is to be tried by court-martial.

The damage caused to the "Gaulois" in her collision with the "Bouvet" is stated to be as follows: Ram deflected, causing a disturbance of the armour plates on the starboard bow, and consequent leakage in the fore compartment. She has proceeded to Toulon for repairs.

The Squadron of the North.—The 1st Division of the Squadron of the North, under the command of Vice-Admiral De Courthille, consisting of the battle-ships "Formidable" (flag), and "Courbet," with the armoured cruisers "Bruix" and "Dupuy de Lôme," and the destroyers "Fauconneau," "Escopette," and "Yatagan," left Brest on the 17th ult. for Saint-Servan, where it was joined by part of the 2nd Division under Rear-Admiral Péphau, consisting of the coast-defence battle-ships "Bouvines" (flag), and "Valmy," the other two ships of the division, the "Tréhouart" and "Jemmapes" not being ready for sea. Proceeding to sea the admiral steamed along the coast, keeping from a hundred to a hundred and twenty miles out, exchanging telegrams by means of wireless telegraphy with the different signal stations on shore. The north-east coast of France abounds in intricate channels and small anchorages, and the admiral utilised the opportunity to take his squadron through many of these, and of mooring the ships in difficult and confined anchorages. In taking this course Vice-Admiral de Courthille is following in the steps of Admiral Gervais, who, when in command of the Northern Squadron, astonished the Breton fishermen by the seeming hardihood with which he navigated the squadron through channels which

had always been considered as too risky for the passage of large ships. The squadron returned to Brest towards the end of February.

Steam Trials.—The first-class armoured cruiser "Amiral Gueydon" has completed her trials off Lorient. The results of the last trial, which was for 24 hours, were completely successful. With the engines developing 11,000-I.H.P., the mean speed was 18.8 knots; the pressure of steam 16 kg. (35.26 lbs.); the consumption of coal per H.P. per hour being 730 gr. (1.43 lbs.), the contract consumption allowing for 750 to 800 gr. (1.5 to 1.6 lbs.). The second-class cruiser "Jurien de la Gravière" has had another full-speed trial off Lorient: the speed ought to have been 23 knots, but although the engines developed more than the stipulated 17,000-H.P., the actual H.P. developed being 17,461, the mean speed was only 22.9 knots, with the large coal consumption of 855 gr. (1.7 lbs.) per H.P. per hour; all her 28 boilers were in use. In view of similar experiences with the "Jeanne d'Arc," the *Yacht* maintains that there is something wrong with the designs of the hulls of these ships, and with regard to the "Jurien de la Gravière," which is an unarmoured vessel, asks whether it is worth while to construct any more ships of her class, as there are many armoured foreign cruisers which equal, if they do not surpass, her in speed.

The new first-class cruiser "Kléber" has commenced her preliminary trials at Cherbourg. A speed of 18 knots was maintained for five hours with ease. At the same port the new second-class battle-ship "Henri IV." had a forced-draught trial with three-fourths of her boilers alight; she consumed 130 kg. (286.52 lbs.) of coal per square metre of grate surface per hour. The ship has since been put in dry dock to undergo other important modifications. The new torpedo-boat destroyer "Sagaie" has also been undergoing her trials: with the engines making 322 revolutions she attained a speed of 30.6 knots, the contract speed being for 28 knots with 310 revolutions.

The trials at Brest of the first-class cruiser "Guichen" have been interrupted by hot bearings, and those of the cruiser "Marseillaise" through the breaking of a blade of the starboard propeller and other damage due to touching the ground whilst being towed from her anchorage in the port, preparatory to going into the basin. The repairs will occupy several months.

The new armoured cruiser "Jeanne d'Arc" has been making another trial at Toulon; she left the anchorage on the 19th ult. for a trial of her engines at nine-tenths of their power, but had to return to port, owing to the sea-sickness of the stokers, although there was not a particularly heavy sea running. She made another attempt on the following day, and the weather being fine, maintained a speed for some hours of 19.4, with the engines making 116 revolutions.

The Report on the Estimates.—The report of M. H. Leygue on the "projet de budget de la marine" has been presented to the chamber. The total credits proposed by the commission on the budget amount to 316,762,163 francs (£12,670,486), being an increase of 10,069,485 francs (£402,779) over the credits asked for by the Ministry of Marine.

It will be remembered that M. Pelletan had effected a reduction in the Naval Estimates by arresting work on some of the new vessels and reducing the crews of the Mediterranean Squadron during the winter months. This, however, was not approved by the commission of the budget, and the continuation of the work on the new ships ordered in the 1900 programme has entailed an increase of nearly 6 million francs (£240,000), and keeping

the complements of the ships of the Mediterranean Fleet at their full strength a further sum of 2,801,399 francs (£112,016). The total increase proposed by the commission amounts to 11,187,656 francs (£447,506), which, less 1,118,171 francs (£44,727) for various small reductions, gives a net increase of 10,069,485 francs (£402,779) as above stated. The different augmentations and reductions proposed by the commission of the budget have been accepted by the Government, and the discussion of the matter in the Chamber on 7th February passed without incident.

The Question of High Speeds.—The *Temps* publishes an interesting article on the question of the advisability of very high speeds in cruisers from the point of view of: Is it worth the candle?

The example of the cruiser "Ernest Renan" is taken, as designed in the 1900 programme, and as since modified to increase her speed from 22 to 23 knots.

The original "Ernest Renan" was of the same dimensions and speed as the armoured cruisers "Léon Gambetta" and "Victor Hugo," namely:—Displacement, 12,530 tons; speed, 22 knots; H.P., 27,500; coal stowage, 2,100 tons; armament, four 194-mm. (7·63-inch) and sixteen 164·7-mm. (6·48-inch).

To gain a knot of speed, the new "Ernest Renan" is to have the following dimensions:—Displacement, 13,562 tons; speed, 23 knots; I.H.P., 33,000; coal stowage, 2,300 tons; armament, two 240-mm. (9·44-inch), twelve 164·7-mm. (6·48-inch). She is to cost, in round numbers, 3,000,000 francs (£120,000) more, and the cost of steaming her will be immensely greater. At a speed of 23 knots she will burn 38 tons of coal per hour, which, at the price of 30 francs per ton, amounts to 1,140 francs (£45 12s. 6d.) per hour; while the original "Ernest Renan" would have cost but 825 francs (£33) per hour for her 22 knots. As the new design burns so much more coal, the supply, in consequence, lasts a shorter time, namely, 60½ hours, at 23 knots, against 76 hours 21 minutes at 22 knots; the radius of action is also less, namely, 1,392 miles, against 1,680 miles.

It is thus seen that the cost of the additional knot's speed is more than 300 francs (£12) for each hour, while the total distance that can be accomplished at full speed is nearly 300 miles less. These, however, are not the only concessions that have to be made. Turning to the armament, and estimating its power by the weight of metal thrown at one discharge of all the guns together, it will be found that the 20 guns of the original "Ernest Renan" could discharge projectiles to the weight of 1,132 kilos. (2,494 lbs.), against 912 kilos. (2,009 lbs.) from the 14 guns of the new "Ernest Renan," giving a loss of 220 kilos. (485 lbs.).

The question for consideration appears to be: Is the budget of the French Navy rich enough to adopt a style of cruiser whose advantage lies in the gaining a speed of 1,852 metres an hour, but whose disadvantages include an increased first cost of 3,000,000 francs (£120,000), increased cost per hour, when steaming full speed, from coal alone of 300 francs (£12), and a loss in the weight of metal discharged by her guns of 220 kilos. (485 lbs.)?

An Incident at Toulon.—A steam launch of the submarine mining department at Toulon was recently accidentally sunk by being struck by a practice torpedo, fired from the "Algesiras." The crew appear to have behaved so badly that Vice-Admiral Bienaimé, the Prefect Maritime, has found it necessary to issue an order stating "that the crew, with the exception of the coxswain behaved deplorably; the artificer-engineer showed

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a want of coolness and courage by quitting his post and jumping overboard, without obeying the orders of the coxswain to stop and reverse the engine." The stoker and a seaman followed his example, though the former did first stop the engine and open the boiler-feed. They are sentenced to various periods of imprisonment (from 30 to 4 days).—*Le Yacht, Le Temps*, and *Le Petit Var*.

MILITARY NOTES.

MILITARY PRIZE ESSAY, 1902.

The Gold Medal of the Institution and the first Trench Gascoigne Prize of thirty guineas for the best essay on :—

"The best organisation for the Land Transport of the British Army, having regard both to Home Defence and Over-sea Expeditions,"

was awarded by the Referees to Major Astley H. Terry, Army Service Corps. The second Trench Gascoigne Prize of thirty guineas was won by Major P. E. F. Hobbs, C.M.G., Army Service Corps, Chief Instructor A.S.C. School of Instruction, Aldershot.

The essays will be published in due course in the JOURNAL.

PRINCIPAL APPOINTMENTS AND PROMOTIONS FOR FEBRUARY, 1903.

Colonel F. A. Yorke, from h.p., to be Assistant Military Secretary at Head Quarters. Brevet Colonel R. Thompson, from an Assistant Inspector-General of Fortifications, to be a Colonel on the Staff for R.E., with the substantive rank of Colonel in the Army. Lieut.-Colonel and Brevet Colonel M. F. Rimington, C.B., from 6th Dragoons, to be a Brigadier-General on the Staff, to command the 3rd Cavalry Brigade, IIIrd Army Corps, with the substantive rank of Colonel in the Army, and to have the temporary rank of Brigadier-General while so employed. General E. F. Chapman, C.B. (late Bengal), to be Colonel Commandant of the Royal Regiment of Artillery. Lieut.-General Sir R. Hume, G.C.B., from the King's Own (Yorkshire Light Infantry), to be Colonel of the Border Regiment. Major-General and Hon. Lieut.-General F. G. T. Deshon, to be Colonel of the King's Own (Yorkshire Light Infantry). Lieut.-General G. D. Pritchard, C.B., to be Colonel Commandant, Royal Engineers. Colonel J. S. Ewart, C.B., now an Assistant Military Secretary, to be Deputy Military Secretary at Head Quarters. Lieut.-Colonel and Brevet Colonel A. E. Codrington, from h.p., to be A.A.G., IIIrd Army Corps. Lieut.-General the Hon. N. G. Lyttelton, K.C.B., now commanding the troops in the Transvaal and Orange River Colony, to be a Lieut.-General on the Staff to command the Forces in South Africa. Lieut.-Colonel and Brevet Colonel F. H. Hall, from h.p., to be a Colonel on the Staff, to command the Royal Artillery, IIInd Army Corps, with the substantive rank of Colonel in the Army.

HOME.—*Army Training for the Year.*—The following memorandum was recently issued by the War Office :—

General officers commanding have been granted a special sum for training for the year ending 31st March, 1904, to be expended in affording such increased facilities as may be required for carrying out :—

1. Squadron, battery, company, regimental, brigade, division, and battalion training.
2. Brigade and divisional training (cavalry and infantry).
3. Combined manœuvres.
4. Mobilisation of fortresses and defended forts.
5. Regimental tours, staff rides, and other instructional exercises.

Combined manœuvres also will be held this year under the direction of the Commander-in-Chief from the 7th to 12th of September inclusive, at which the troops to be employed will be drawn chiefly from the First and Second Army Corps districts. The manœuvres area, in which the Military Manœuvres Act will be brought into operation, will comprise the counties of Oxfordshire, Berkshire, Hampshire (excluding the New Forest), and the northern portion of Wiltshire, including the War Office land on Salisbury Plain.

Memorandum of the Secretary of State for War relating to the Army Estimates for 1903-04.—The total of the Army Estimates for 1903-04, together with the Ordnance Factories' Vote and special expenditure in South Africa, including payment of compensation claims, amounts to £34,500,000, while the number of men to be voted is 235,761.

The following table shows the comparison with the figures for the current year :—

	1903-04.	1902-03.	Increase.	Decrease.
	£	£	£	£
Normal services	27,588,000	27,483,713	104,287	—
Temporary services (reserve of stores and clothing, special programme)	2,157,000	1,822,000	335,000	—
Ordnance Factories' Vote ...	255,000	355,000	—	100,000
War services (South Africa and China)	30,000,000	29,660,713	339,287	—
Special expenditure in connection with South Africa (including payment of compensation claims), China and Somaliland	—	40,000,000	}	35,500,000
	4,500,000	—		
	34,500,000	69,660,713	—	35,160,713
<i>Numbers.</i>				
Vote A—				
Permanent establishments	221,561	219,700	1,861	—
Temporary establishments (due to war, etc.) ...	14,200	200,300	—	186,100
Total	235,761	420,000	—	184,239

£

The close of the war in South Africa, while enabling a great reduction to be made in the Army Estimates, still leaves upon the votes a sum of nearly £7,000,000 in excess of the normal Army Services. Of the total of £ 34,500,000

Compensation claims in the Transvaal and Orange River Colony absorb	2,000,000
Extra cost of the increased garrison in South Africa, numbering nearly 30,000 in all, and maintained on a higher scale than peace footing	1,150,000
Transport charges, temporary war pensions, &c.	850,000
Charges in connection with the Somaliland Expeditionary Force and China, each £250,000	500,000
	<hr/> 4,500,000

Beyond this the extra reserves of stores and clothing ordered in 1900 after the report of the Mowatt Committee require 2,157,000

The Mowatt scheme (involving an expenditure of about £9,000,000 on Estimates) will then be completed, with the exception of a balance of about £250,000 to be provided in 1904-05.

The Ordnance Factories' Vote amounts to ... 255,000

6,912,000

The total due to normal services is thus reduced to ... 27,588,000

The reduction from War to Peace Establishments, although it has proceeded with great rapidity for the last 9 months, still leaves us, in consequence of the high recruiting figures of last year, with a surplus of men on the Home Establishment.

It has therefore been necessary to take a margin of 14,200 men pending the absorption of the surplus.

Although the Establishment of British troops remains approximately the same as last year, a reduction has been effected in the Establishment (both men and horses) of the Regular batteries allotted to Home defence. At the same time it is proposed to raise, in 1903-04, two additional brigade divisions of Militia Field Artillery, the cost of which will be met by reduction of surplus Militia Garrison Artillery. As regards the Colonial and native Indian corps there is a net increase of about 1,250. This is due to the inclusion of 3 Indian battalions, which it is found necessary to retain for the present in North China and Hong Kong. On the other hand there is a decrease arising from the disbandment of the 3rd Bn. West India Regiment and the reduction of the Chinese Regiment from 8 to 4 companies.

The normal figure of the Estimates shows an increase of about £100,000 over last year's figures, but large economies have been made enabling provision to be made for the following services :—

- Manœuvres, for which an additional sum of £170,000 is spread over various votes.
- Works, including a considerable addition to hospital and sanitary services.
- Education, including Head Quarters Staff and additions at Sandhurst.

- d. Increased provision for training of Auxiliary Force Officers.
- e. Furnishing officers' quarters and provision of officers' chargers.
- f. Increases to Intelligence, Medical, and Remount Departments, and improvements in Veterinary Department.

Vote 1.—Pay, &c.

This Vote shows a gross decrease of £9,300,870, but an increase on normal services of £170,130, due to provision for the extra day in Leap Year, for certain additions to the Royal Engineers, Royal Army Medical Corps, and Remount Department, for 3 more native battalions borrowed from the Indian Government for North China and Hong Kong, and for various minor increases.

Vote 2.—Medical Services.

There is a gross decrease on this Vote of £495,000 but an increase on normal services of £25,000, due to provision for additions to the Medical and Nursing Services of the Army.

Vote 3.—Militia.

This Vote shows a gross decrease of £474,000, but a normal increase of £46,000. Provision has been made for the formation of two further brigade divisions of Militia Field Artillery, for additional companies of Militia Engineers and Militia Medical Corps, and for the training of a larger number of Infantry battalions than was possible in 1902. Improvements have also been made in the conditions of service of the Malta Militia and the Bermuda Artillery Militia.

Vote 4.—Yeomanry.

The decrease of £105,000 on this Vote is due to allowance having been made for the Yeomanry Force remaining below its full strength during 1903-4, it being unlikely that Establishments will be completely filled. On the other hand provision has been included for various concessions which have been pressed for by Yeomanry corps.

Vote 5.—Volunteers.

The decrease of £7,000 on this Vote is due to the reduced provision required for Capitation Grants in consequence of the reduction in the number of efficient. On the other hand, new companies of the Army Medical Corps and brigade bearer companies have been provided for, and increased provision has been made for the instruction of officers.

Vote 6.—Transport and Remounts.

This Vote shows a gross decrease of £9,404,000, but a normal increase of £17,000, mainly due to provision for manœuvres.

Vote 7.—Provisions, Forage, &c.

There is a gross decrease on this Vote of £9,171,000, but an increase on normal services of £214,000, caused by the necessity of providing for manœuvres (as above mentioned), for systematic Mounted Infantry training at home, and for an increase in the number of effective soldiers in the Army.

Vote 8.—Clothing, &c.

The gross decrease on this Vote amounts to £2,148,000, although increased provision for reserves of clothing under the Mowatt programme, amounting to £307,000, is included.

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Vote 9.—Warlike and other Stores.

The gross decrease on the Stores Vote is £3,509,455, but the normal decrease is £573,455 only. This arises mainly on the items for guns, carriages, and ammunition, and is due to the approved reserves of these stores having been practically completed.

Vote 10.—Works, &c.

On the Works Vote there is a gross decrease of £266,293, despite a normal increase of £283,707, due to the continued growth of the charge for annuities in extinction of loans under the Military Works Acts and to necessary provision for new hospital and sanitary services.

Vote 11.—Educational Establishments.

The increase of £13,700 is due mainly to additional staff and improvements at the Royal Military College, to the reconstruction of the Medical Staff College, and to an increase in the teaching staff of regimental and garrison schools.

Vote 12.—Miscellaneous.

There is a gross decrease of £41,890 and a normal decrease of £1,890 on this Vote. Additional subordinate staff has been provided for the Explosives Committee (for experimental services), but on the other hand a special payment voted in 1902-03, under "Rewards to Inventors," drops out.

Vote 13.—War Office.

The gross decrease on this Vote is £1,905, but there is a considerable increase on the normal Vote. This is due to a provision for strengthening the Intelligence Department, for which also further staff will probably be required according to the recommendations of a committee appointed in November last to consider the additional calls now falling on the Department. The appointment of a Director-General of Military Education and extra staff is also provided. There are also additions to the clerical establishment owing to the growth of work generally.

Votes 14-16.—Non-Effective Services.

The gross decrease on the Non-Effective Votes is £150,000, but there is no variation in the total provision for normal services.

ST. JOHN BRODRICK.

War Office,

4th March, 1903.

Report of Inspector-General of Recruiting for 1902.—The annual report of the Inspector-General of Recruiting for the Army and Militia, for last year, was recently issued as a Parliamentary Paper. It is divided into 7 parts, as follows, viz. :—

1. General observations.
2. Regular Army and Reserve.
3. General observations on the Militia.
4. Militia and Militia Reserve.
5. Home Imperial Yeomanry.
6. Civil employment of discharged soldiers and reservists.
7. War recruiting and concluding remarks.

At the commencement of the year recruiting was still suffering from a certain amount of dislocation, owing to the prolongation of the war in South Africa. A number of Militia units were serving in that country, and the

medical inspection of recruits remained in the hands of a considerable number of civilian medical practitioners, due to the absence abroad of the medical officers of the Regular Army. Thus, a large number of the recruiting agencies available in normal times had not yet returned to their usual work. At the latter part of December, 1901, the Secretary of State decided to raise under special war recruiting measures additional drafts to reinforce the Imperial Yeomanry in South Africa. No relaxations of standard were allowed, and every man was to be medically fit for active service in accordance with the standard laid down for the Regular forces. Recruiting began on the 1st of January, and was stopped on the 18th. In addition to the Yeomen, ex-Imperial Yeomen and men discharged from colonial corps living in this country were also being enlisted under Army Orders issued in the closing part of the preceding year. Recruiting for this class was continued until the 31st of January.

REGULAR ARMY AND RESERVE.

The total result of recruiting for the year 1902 amounts to 50,753 for the Regular Army, excluding colonial corps, and 41,486 for the Militia, as against 47,039 for the Regulars and 37,644 for the Militia in 1901. These figures are exclusive of the numbers mentioned above as having been raised specially for the war. For the first half year recruiting for the Regular Army showed a decrease compared with the numbers for the corresponding period of 1901. An improvement took place in the third quarter of the year, which developed very materially during the last three months. The grand total for the year is higher than it has ever been before under the short service system. As regards the Militia, the improvement has been practically a gradual one, embracing the whole year.

These totals, the Inspector-General states, are the more gratifying inasmuch as, in consequence of the termination of the war in South Africa, the cavalry was so much over establishment that recruiting was entirely suspended, except for artificers, from 15th November, 1902, and prior to this date could only be carried out for very few regiments. Recruiting for the Royal Horse Artillery was entirely suspended from 20th December. Recruiting for the Royal Field Artillery, in the case of drivers, for the same reason had to be partially closed in November and December. Instructions were issued in August for the suspension of recruiting for four Garrison Artillery Militia units in Ireland, pending the decision on certain questions connected with these units, and in England recruiting for the Yorkshire Artillery Militia was suspended from 5th November, owing to the corps being so much in excess of establishment.

From 1st April a most important and far-reaching change was made as regards both the terms of service and the pay of the soldier. With very few exceptions, the terms of service were altered to 3 years' colour service and 9 years in the Reserve for all branches of the Service. Men enlisting under the new conditions were no longer made liable for the extra year if serving abroad on the termination of their 3 years' colour service, the proviso regarding the extra year being only retained in case of war emergency. A further increase of pay, which will be granted on and after 1st April, 1904, was promised subject to the condition that soldiers must have either enlisted for more than 3 years with the colours, or, having enlisted only for 3 years' Army service, have been permitted to extend their service. A number of further concessions, financial and other, have been made, tending to make the life of the soldier one of greater freedom and to

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diminish the time spent on fatigues and similar duties. The only increase to the Army during 1902 was the 5th Battalion Royal Garrison Regiment, the formation of which was begun in the early part of the year, the unit being embarked for Nova Scotia in September to "complete establishment." The decreases during the year included the 3rd Battalion of the West India Regiment and the Hong Kong Regiment disbanded, and the Chinese Regiment reduced, and all enlistments and re-engagements stopped.

Recruiting for the Cavalry was maintained at a high level throughout the year, in spite of the stoppage of recruiting for that arm in November. As long as hostilities continued no diminution could be made in the enlistment of men for this arm. Recruiting for the Artillery exceeded the numbers taken for the previous year, though restrictions were placed on the mounted portion during the closing half of 1902. Recruiting for the Foot Guards shows a considerable decrease in the numbers as compared not only with those of the preceding year, but with the numbers taken for the last five years. The Irish Government continued to give every facility to enable recruiting for the Irish Guards to be satisfactorily carried out in Ireland. Recruiting for Infantry of the Line, though showing an increase in totals as compared with the previous year, was unsatisfactory for the first 9 months, but in the last 3 months of the year a very marked improvement took place. A large proportion of this increase during the last 3 months was owing to the increased number of recruits enlisting from the Militia. Recruiting for the Royal Garrison Regiment progressed steadily during the 12 months. The numbers naturally show a decrease as compared with the preceding year, but this is due to the fact that the supply of men from the Royal Reserve regiments has become exhausted, and recruiting is now carried on from among the time-expired soldiers who have completed both their Army and Reserve engagements.

The following table shows the number of recruits enlisted for long and short service respectively during the last two years, and the arms of the Service in which they enlisted :—

Terms of Service.	1901.	1902.
Twelve years with the Colours	2,004	1,894
Seven years with the Colours and 5 years in the Reserve	34,203	9,917
Three years with the Colours and 9 years in the Reserve	8,950	38,942
One year with the Colours, or for the war should it last longer	23,373 ¹	10,573 ¹
Re-enlisted (For 1 year	655 ²	204 ²
(A.O. 106 of 1900	532 ²	336 ²
Royal Garrison Regiment	4,052	2,250
Colonial Corps (various terms)	1,882	924
Total	75,651	65,040

¹ Imperial Yeomanry and Volunteers, etc., enlisted for one year, or the duration of the war.

² Imperial Yeomen re-enlisted for one year.

³ Ex-soldiers, discharged on completion of 12 years' service, re-enlisted until attaining the age of 44, or until completing 21 years' total service, whichever happens first.

Arms of the Service.	1901.	1902.
Household Cavalry	201	149
Cavalry of the Line	6,397	6,189
Imperial Yeomanry	17,252	7,239
Royal Artillery { Horse and Field... ..	7,024	8,663
{ Garrison	2,955	3,499
Royal Engineers	2,706	1,745
Foot Guards	2,307	1,837
Infantry of the Line	27,004	29,038
Royal Garrison Regiment	4,052	2,250
Colonial Corps	1,882	924
Army Service Corps... ..	1,115	1,922
Army Ordnance Corps	463	337
Royal Army Medical Corps	2,052	1,208
Army Pay Corps	2	
Army Post Office Corps	239	40
Total	75,651	65,040

The increase in the number of Militiamen who joined the Regular forces during the last 5 years is, as has been already mentioned, very noticeable, and may be attributed partly to the fact of the disembodiment of the Militia battalions, and partly to Militiamen having acquired a liking for military service while embodied for a lengthened period with their units. The great divergency of opinion shown by medical officers as regards the degree of unfitness caused by defective teeth or flat feet largely helps to swell the total of men discharged as invalids during the first and second year of service. The following table, furnished by the Army Medical Department, shows the number of ordinary recruits who presented themselves for medical examination during the past two years, the number of those who were rejected, and the percentage of rejections:—

	1901.	1902.
Numbers medically inspected	76,750	87,609
Numbers rejected { For various ailments	14,931	19,674
{ For want of physical development	7,355	8,547
Total rejected	22,286	28,221

Recruiting for the Militia has been affected by the continued embodiment and absence of so many units from their own counties, and the consequent loss of recruiters thereby entailed. There were 38 units of infantry Militia embodied and stationed abroad on 1st January, 1902, and 19 detachments of mounted infantry serving in South Africa on the same date. Sixteen Militia units were embodied during the first half of the year, but by the end of the year all the Militia had been disembodied with the exception of the Royal Army Medical Corps (Militia), which remained embodied owing to the retention in South Africa of so many men of the Royal Army Medical Corps. Although a material increase in recruiting has taken place as compared with the preceding year, the total strength of the Militia shows a slight decrease.

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MILITIA AND MILITIA RESERVE, &C.

Recruiting for 1902 for the Militia shows a material increase, the number of recruits enlisted being 41,486, as compared with 37,644 in 1901. Recruiting has been again affected by the continued embodiment and absence of so many units from their own counties, and the consequent loss of recruiters thereby entailed. It will be seen from the above figures that a material increase in recruiting has taken place as compared with the preceding year, but the total strength of the Militia, in spite of the excess in recruits taken, shows a slight decrease for the 12 months. This is accounted for by the very large number of men who took their discharge on termination of engagement, by the increased number who joined the Regular Army, by discharges by purchase, and also by the loss from absentees struck off the strength. On the 1st of January, 1903, the strength of the old Militia Reserve was 9,780. As to the home Imperial Yeomanry, the number of recruits taken during 1902 amounted to 8,845, as compared with 8,216 for the preceding 12 months. The report afterwards deals exhaustively with the question of the civil employment of ex-soldiers. The total number of men who left the Army during 1902 with characters entitling them to registration for civil employment was 64,445, while the total number of men for whom employment was found during the year, by means of the official registers or the employment societies, and in departments under the War Office, was 45,981. Men discharged from special corps raised for the war are not included in these totals, which merely comprise men returning to civil life under the ordinary conditions.

The civil employment of discharged soldiers and Reservists is dealt with exhaustively in the report, the measures taken on behalf of the men and their results being fully set forth.

RECRUITING AND CONCLUDING REMARKS.

Bearing in mind the checks imposed owing to the reduction of establishments to more nearly a peace footing, recruiting for the past year may be considered as satisfactory. The returns from Ireland show a gratifying increase. Scotland, however, has not contributed much towards the increased totals. An impression appears to exist, and letters have, in fact, appeared in the Press, stating that large numbers of recruits enlist merely to obtain a railway warrant to some other town and abscond while *en route*. It may be of interest to note that this was made the subject of a special inquiry. From the statistics furnished it appears that only 278 recruits failed to join their regiments, or a percentage of '5 to the recruits enlisted during 1902. This result is considered most satisfactory. The Inspector-General adds :—

"The one subject which causes anxiety in the future as regards recruiting is the gradual deterioration of the physique of the working classes from whom the bulk of the recruits must always be drawn. When it is remembered that recruiters are instructed not to submit for medical examination candidates for enlistment unless they are reasonably expected to be passed as fit, one cannot but be struck by the percentage considered by the medical officers as unfit for the Service. In the reports from all the manufacturing districts stress is invariably laid on the number of men medically rejected for bad teeth, flat feet, and inferior physique."

The grand total of recruits raised for the Regular forces during the late war, both ordinary and special recruits, was 218,442, or 6,826 enlistments per month. In addition 17,144 men accepted bounty to extend service, and thus relieved, to a proportionate extent, the strain on the recruiting market.

In conclusion, the Inspector-General says :—"While there is a difference of opinion in recruiting districts as to the extent the new pay conditions have been responsible for the increased number of recruits obtained, the fact remains that recruiting has shown a decided improvement. It is too early yet to say if this improvement is entirely due to the shorter term of service adopted, and to the increased rate of pay, or whether it is partly owing to a temporary fluctuation of the recruiting market. The changes made during the past year will indeed be satisfactory if for the future more men of a higher class and education are induced to enlist and to seek a career in the Army as non-commissioned officers. As regards the rank and file, if service in the Army is now considered sufficiently attractive to lead a considerable number of men to extend their service with the Colours, the question of keeping battalions abroad up to their establishment will have not been adversely affected by the alteration in the terms of service, and the Reserve will be strengthened. It has already been stated that the number of recruits taken for the Regular Army during the past year is the highest since the introduction of the short-service system. If to this is added the Imperial Yeomanry and others enlisted for the war, and also 1,239 South African Constabulary recruits raised in this country during the past year, the total numbers provided by the United Kingdom amount to a grand total of 66,279."

CORRESPONDENCE.

"AMALGAMATION OF BEARER COMPANY AND FIELD HOSPITAL AS A MILITARY UNIT."

To the Editor of the JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION.

SIR,—I have just read with much interest the lecture on the above subject given by Staff-Sergeant H. Stapleton, R.A.M.C. (Vols.) on the 28th February last, and which appears in the JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION dated 15th December, 1902. I was much surprised that no mention was made, either by the lecturer or by any of those who joined in the discussion, of the organisation of field hospitals in India. Full details of such organisation will be found in an official publication entitled "Field Service Manual, India. Part II. Medical."

By Indian organisation the bearer company is a component part of a field hospital. In action it forms collecting and dressing stations. A few extracts from this manual will, I think, be interesting and instructive.

Field hospitals will receive all the sick and wounded from the force to which they are attached. Bearer companies will form part of the field hospital service.

To admit of the regular and systematic transfer of sick and wounded from front to base, stationary field hospitals will be established on the "lines of communication." At the "base of operations," or other suitable locality, general hospitals will be formed for the purpose of receiving sick and wounded from the front.

A sketch illustrating the relative positions of the successive lines of medical assistance on field service, traced from front to base, is given on page 366.

All principal medical officers in the field will be on the staff of the Army.

When an action is expected, the regimental stretcher bearers, in the proportion of 2 per battery, troop, or company, with field stretchers, will be placed under the medical officer's orders. These form the *first line of assistance*. Bearer companies form the *second line of assistance*. Each field hospital is capable of equipping one bearer company. After an engagement bearer companies will rejoin the field hospital to which they belong. Field hospitals form the *third line of assistance*. Each field hospital will be equipped for 100 beds. Each field hospital is divisible into 4 sections, each section being complete in itself. The hospital will be distinguished by a flag during the day and a red lantern at night. Advantage will be taken of any available and suitable buildings in towns and villages for the establishment of field hospitals. Field hospitals on the lines of communication form the *fourth line of assistance*. The number of these depend on the circumstances of the case. General hospitals form the *fifth line of assistance*. Hospital ships form the *sixth line of assistance*. There are, of course, separate hospitals of all sorts for British and native troops.

The field hospitals are classed as "slow moving" for infantry, and "fast moving" for cavalry. This classification does not exist in our "War Establishments," but might with advantage be introduced.

Taking the organisation of a division of all arms in India for service, which consists of :—

3 infantry brigades,
Divisional troops,
and a cavalry brigade,

we find that there are with it :—

Field Hospitals with { 1 British Field Hospital (slow moving).
each Brigade ... { 1 Native Field Hospital (slow moving).

With Divisional Troops { $\frac{1}{2}$ British Field Hospital (slow moving).
{ $1\frac{1}{2}$ Native Field Hospital (slow moving).

With Cavalry Brigade { $\frac{1}{4}$ British Field Hospital (fast moving).
{ $\frac{1}{2}$ Native Field Hospital (fast moving).

While on the subject of hospitals it may not be out of place to mention an organisation in India which does not appear in our "War Establishment," but it is hoped that after recent experience in the Boer war, may be introduced, viz., veterinary hospitals. Some of these during the war were borrowed from India. These consist of field and general veterinary hospitals, full details of which will be found in the "Field Service Manual, India. Part III." Veterinary field hospitals, divisible into 2 sections, are attached to brigades, divisions, or columns as required; also detailed to the lines of communication if necessary. General veterinary hospitals, divisible into 2 sections, are chiefly stationary, but may be moved in any required direction, either as a whole or section. Their location is fixed by the general officer commanding the force. Veterinary field hospitals are classed as "slow mov-

ing" and "fast moving." There will be found in the Indian division as organised the following :—

With divisional troops, 1 veterinary field hospital (slow moving).

With cavalry brigade, 1 veterinary field hospital (fast moving).

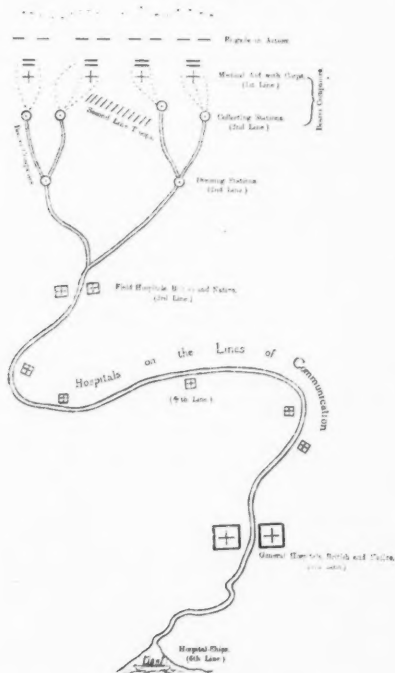
The distinguishing flag is a white horse on a red ground.

Yours truly,

H. M. E. BRUNKER, Lieut.-Colonel
(Late Scottish Rifles).

Farnborough,
1st January, 1903.

Diagram showing the relative positions of the successive lines of medical assistance on active service traced from front to base.



NAVAL AND MILITARY CALENDAR.

FEBRUARY, 1903.

2nd	(M.)	1st Bn. Royal Welsh Fusiliers	}	Arrived at Southampton from
"	"	4th Bn. Rifle Brigade		Cape Town in the "Ortona."
3rd	(T.)	54th and 55th Companies R.G.A.	}	Left Bombay for Aden in the
"	"	1st Bn. Hampshire Regiment		"Syria."
"	"	2nd Bn. West India Regiment		arrived at Sierra Leone from Jamaica in the "Orissa."
"	"	British Expedition, under Colonel Morland, occupied Kano, Northern Nigeria, after severe fighting.		
4th	(W.)	An Army Order was issued regarding the formation of a Militia Reserve.		
6th	(F.)	1st Bn. East Surrey Regiment left India for England in the "Assaye."		
7th	(Sat.)	H.M.S. "Venus" commissioned at Chatham to relieve "Australia."		
"	"	The first stage of the advance against the Mullah in Somaliland, commenced.		
"	"	1st Bn. South Lancashire Regiment	}	Arrived at Bombay from South
"	"	2nd Bn. Royal Irish Fusiliers		Africa in the "Soudan."
8th	(S.)	1st Bn. Royal Inniskilling Fusiliers arrived at Queenstown, Ireland, from South Africa in the "Aurania."		
10th	(T.)	2nd Bn. Northumberland Fusiliers	}	Arrived at Southampton from
"	"	2nd Bn. Norfolk Regiment		South Africa in the "Aurania."
12th	(Th.)	74th Co. R.G.A.	}	Arrived at Bombay from Egypt
"	"	1st Bn. Seaforth Highlanders		in the "Plassy."
13th	(F.)	The settlement of the Venezuela difficulty was officially announced.		
"	"	54th and 55th Companies R.G.A.	}	Arrived at Aden from India in
"	"	1st Bn. Hampshire Regiment		the "Syria."
14th	(Sat.)	2nd Bn. South Lancashire Regiment left India for England in the "Soudan."		
15th	(S.)	1st Bn. Connaught Rangers arrived in Ireland from South Africa in the "Staffordshire."		
16th	(M.)	1st Bn. King's Own Scottish Borderers	}	Arrived in Ireland from South
"	"	2nd Bn. Seaforth Highlanders		Africa in the "Lake Manitoba."
17th	(T.)	2nd Bn. Royal Scots Fusiliers	}	Arrived at Southampton from
"	"	2nd Bn. Middlesex Regiment		S. Africa in the "Staffordshire."
18th	(W.)	H.M.S. "Russell" commissioned at Chatham for Mediterranean.		
"	"	2nd Bn. Duke of Cornwall's Light Infantry arrived at Plymouth from South Africa in the "Lake Manitoba."		
19th	(Th.)	1st Bn. Shropshire Light Infantry left India for England in the "Plassy."		
20th	(F.)	Headquarters and 4 companies 1st Bn. Royal Dublin Fusiliers left Malta for Crete in the "Ortona."		
21st	(Sat.)	The Austro-Russian proposals regarding Macedonia were presented to the Porte.		
24th	(T.)	2nd Bn. Royal Irish Regiment left India for Ireland in the "Sicilia."		
26th	(Th.)	1st Bn. Royal Scots	}	Left Cape Town for Ireland and
"	"	3rd Bn. King's Royal Rifle Corps		England in the "Dominion."
27th	(F.)	1st Bn. East Surrey Regiment arrived at Southampton from India in the "Assaye."		
28th	(Sat.)	2nd Bn. Royal Irish Regiment left India for Ireland in the "Sicilia."		

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Maritimes, Breton Fishermen. "A Contribution to the Study of the Engineer Question." "The Strategical Position of Biserta, Malta, and Famagusta." "The Subsidies to the English Mercantile Marine."

GERMANY.—*Marine-Rundschau.* Berlin: March, 1903.—"Private Property at Sea in time of War." "The Operations of the Russian Fleet During 1853-1854" (concluded). "The Battleships and Cruisers of the Five Largest Sea-Powers on 1st January, 1903." "Does War Mean Starvation?" "Sir William White and English War-ship Construction." "Buonaparte's Orders to the Scouting Ships in 1798." "The French Estimates for 1903." Discussion on the Lecture:—"Four or Five Places of Decimals for Logarithms for Nautical Tables." "Foreign Naval Notes."

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NOTICES OF BOOKS.

With General French and the Cavalry in South Africa. By C. S. GOLDMANN
London : Macmillan and Co. 1902.

When an author refers on the first page of his preface to Murat's “unrivalled cavalry,” and a little further on gives, as a list of the authorities he has consulted, “Prince Kraft, Bernhardt, Pelet-Narbonne, Sir Evelyn Wood, and Sir Frederick Maurice,” one knows that his study of cavalry matters must have been superficial in the extreme, and the temptation to waste no further time over his work is almost irresistible. Fortunately on this occasion we did overcome it, and have been rewarded by a really well-digested and well-arranged account of Gen. Sir John French's operations, of which we have long stood in need. The maps are excellent and the type unimpeachable. We only regret that the author's want of previous acquaintance with cavalry matters should have prevented his presenting the case of the cavalry with the overwhelming strength his facts fully justify. He sees the advantages “mobility” confers, but fails altogether to draw the obvious deductions as to the future training and possibilities of the arm. Whilst calling attention to the abnormal conditions of the struggle, he fails to make the reader see the unusual degree of abnormalness which existed, and the consequences thus entailed.

To train, arm, and equip cavalry on the assumption that they will always have to meet their enemy under the disadvantages accruing from 7,000 miles of sea and land transport seems to us an absurdity : under such conditions they must inevitably be inferior to their opponents in the essential quality of “mobility” ; and given this want of mobility, all the troubles of South Africa of necessity reproduce themselves. The enemy chooses his own ground and awaits attack under conditions which compel dismounted action, or he rides away and evades our scouting parties, following them up when, in the nature of things, they are compelled to return to camp—for an extended line of scouts cannot remain out halted indefinitely. But turn the matter round : give us the superior mobility, and the advantages are all the other way : if he awaits attack in inaccessible positions, we can ride round and “round-up” his led horses ; if he attempts to retreat, we can catch him and charge into his disordered squadrons ; and our scouts can live at least as well as he can—on the country and the contents of his convoys.

We are all for a really independent cavalry—a cavalry that can dismount and fight on foot or charge home when required ; in so far as the ideal is unattainable, we prefer men who can really “move” to those who may

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excel as marksmen and skirmishers, but are deficient in "horsemanship"—using the word in its widest sense—for in proportion as the standard of horsemanship is higher, the need for the other qualifications becomes less. The point was well brought out in the Franco-German War, in which only the German Hussars and Dragoons carried carbines: yet as soon as they asserted their superior mobility the enemy collapsed. It was only when operations became stationary that they were occasionally inconvenienced by the want of firearms—and this notwithstanding that they were opposed by an enemy whose numbers conferred upon them a fire-power far in excess of anything the Boers could bring against us, and not much inferior in marksmanship, if the proportion of hits to rounds fired is examined.

The real weakness of our cavalry revealed in South Africa was a consequence of the neglect into which the study of equitation in this country has fallen. For years past it appears to have been assumed that men were taught to ride in a military seat solely for the sake of uniformity and to please the spectators. It has been forgotten that the military seat was evolved on the survival of the fittest principle by very practical men in a very practical time, and simply had for its object to bring the greatest number of men, at the highest attainable speed, and in the best possible order, into action against the enemy; and whether that action begins at five miles from the enemy or at his muzzles, the principle involved is the same. The best rider has his horse under more perfect control, and his weight better distributed, hence the horse performs his marches and manœuvres with less distress, his food goes further, and he reaches the enemy in better condition. But if your men sit like sacks, and have to fret and worry their horses' mouths to compel obedience, the animals will fall off in condition on rations and marches, where the others remain fat.

This is the direction in which reform has moved in Prussia during the last thirty years, and, as a consequence, her cavalry has doubled its striking radius and power of manœuvre—a far higher relative gain than has been effected in firearms in the same period, for one Mauser is by no means equal in killing power to two chassepots.

In conclusion, it would perhaps be as well if Mr. Goldmann, in the future, when extracting long and essential passages from a living writer's works, were to give that author's name, merely by way of a precaution; otherwise his book is full of interest and well worth reading.

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